

# ARJO

## **MAXI SKY<sup>600</sup>** OPERATING AND PRODUCT CARE INSTRUCTIONS



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February 2006



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# Introduction

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Thank you for purchasing ARJO equipment.

Your *Maxi Sky<sup>600</sup>* is part of a series of quality products designed especially for acute care hospitals, elderly care facilities and other health care use.

We are dedicated to serving your needs and providing the best products available along with training that will bring your staff maximum benefit from every ARJO product.

Please contact your local ARJO representative if you have any questions about the operation or maintenance of your ARJO equipment.

## Foreword

### Please read this manual thoroughly

Please read this manual in its entirety before using your *Maxi Sky<sup>600</sup>*. Information in the manual is crucial to the proper operation and maintenance of the equipment, and will help protect your product and ensure that the equipment performs to your satisfaction. Lifting and transferring a person always present a potential risk. Some of the information in this manual is important for your safety and must be read and understood to help prevent possible injury. ARJO strongly advise and warn that only ARJO designed parts, which are designed for the purpose, should be used on equipment and other appliances supplied by ARJO, to avoid injuries attributable to the use of inadequate parts.

Unauthorized modifications on any ARJO equipment may affect its safety. ARJO will not be held responsible for any accidents, incidents or lack of performance that occur as a result of any unauthorized modification to its products.

Tested according to standards by:

TÜV, Product Service and 

## Service and support

A service routine has to be done on your *Maxi Sky<sup>600</sup>* by ARJO authorized service personnel to ensure the safety and operating procedures of your product.  
*See chapter Care and Maintenance.*

If you require further information, please contact your local ARJO representative which can offer comprehensive support and service program to maximize the long-term safety, reliability and value of the product. Contact your local ARJO representative for replacement parts. Your service representative stocks the parts you will need.

The telephone number appears on the last page of this manual.

## Supplier information

This product has been manufactured for ARJO by:  
BHM Medical Inc.  
2001 Tanguay Street  
Magog (Quebec)  
Canada J1X 5Y5

Authorized representative in Europe:  
ARJO Hospital Equipment AB  
Box 61  
S-241 21 Eslöv  
Sweden

# Introduction

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## How to use this manual



### **WARNING:**

**Do not attempt to use this equipment without understanding this manual.**

To ensure safe operation, read the entire manual carefully, especially the section on “Safety Instructions and Warnings”, before installing, operating, or servicing this equipment.

If anything is not completely understood, please contact your local ARJO representative for more details. Failure to comply with warnings in this manual may result in injury.

Keep this manual with the lift and refer to it as required. Make sure that all operators are regularly trained in the use of the equipment according to this manual.

## Symbols used in this manual

Throughout this manual the following symbols are used. Pay particular attention to the information provided under these headings. These special annotations are easily recognized as follows:



### **WARNING:**

**This symbol is intended to alert the user to hazards or unsafe practices, which could result in serious injuries. Failure to understand and obey this warning may result in injury to you or to others.**

## **NOTE!**

**This symbol is intended to alert the user of the presence of important operating and maintenance instructions, which could prevent product damage or possible personal injury. This is important information for the correct use of this system or equipment.**

## **CAUTION**

**This symbol offers helpful information concerning certain operating procedures. Failure to follow these instructions may cause damage to all or parts of the system.**

Additional copies of this manual can be purchased from your local ARJO representative. Include the User Manual product number and equipment identification number, *see front page*.

## Key to symbols

The following symbols are used on the *Maxi Sky<sup>600</sup>* ceiling lift cassette:



The symbol indicates the power-on indicator light.



The symbol indicates the charging indicator light.



The symbol indicates the “Service” indicator light.



The symbol represents the emergency stop.

# Introduction

## Intended use

The *Maxi Sky<sup>600</sup>* is intended for lifting residents at acute care hospitals, elderly care facilities and other health care facilities under the supervision of appropriate trained caregiver staff in accordance with the instructions outlined in this Operating and Product Care Instructions. All other uses must be avoided.

The equipment must only be used for the purposes stated above, and must be installed by ARJO authorized personnel and in accordance with local codes.

## Operational life



### WARNING:

**The manufacturer cannot ensure full safety for a ceiling lift or an accessory of which the lifespan is exceeded.**

The equipment is designed and tested for a useful life of seven (7) years or 10 000 transfers, whatever comes first, subject to preventative maintenance as specified in the Operating and Product Care Instructions, the Assembly and Installation Instructions and the Spare Part Instructions. Time equivalence between number of transfers / number of years is made clear in the table in *figure 1*. The red indicator on the ceiling lift will blink for a while when it is halfway to its useful life, and again to indicate the end of the useful life period.

The operating life of this equipment corresponds directly to the safe operating time period before a complete overhaul is required. Age of the cassette, frequency of use (number of beds / transfers per day), resident weight and maintenance frequency are factors that have an impact on the *Maxi Sky<sup>600</sup>* lifespan. A transfer is defined as the displacement of a resident from one point to another. A transfer cycle includes a lifting and a descent action.

Transfers per day	Years (10 000 transfers)
4	7
6	4.5
8	3.5

Figure 1

The expected operational life for fabric slings and fabric stretchers is approximately 2 years from date of purchase. This life expectancy only applies if the slings and stretchers have been cleaned, maintained and inspected in accordance with the “ARJO Sling Information” documents, the “Operating and Product Care Instructions” and the “Preventive Maintenance Schedule”.

The expected life for other consumable products, such as batteries, fuses, lamps, slings, straps and cords is dependent upon the care and usage of the equipment concerned. Consumables must be maintained in accordance with published “Operating and Product Care Instructions” and the “Preventive Maintenance Schedule”.

## Equipment identification

The unit's identification number (specification, model, serial number) appears on a silver nameplate attached at the end of the lift.

## Verifying the package contents

Always ensure that the ceiling lift shall be installed by an ARJO authorized contractor or installer.

Upon receipt of the equipment, verify it against the packing list to ensure it is complete and inspect the equipment for possible damage due to shipping. If there is any damage, notify the carrier immediately to file a claim. Provide complete information concerning damage claims or shipping errors to your local ARJO representative. Include all equipment identification numbers and group part numbers (if any) as described above along with a full description of damaged parts.



# Safety Instructions

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The equipment must be used in accordance with these Safety Instructions.

Anyone using the equipment must also have read and understood the instructions in this manual.

If there is anything you are not sure about, contact your local ARJO representative.

## General

Keep these Safety Instructions with the ceiling lift at all times.

Read Operation and Product Care Instructions in this manual before installing, operating, or servicing this equipment.



### WARNING:

*Maxi Sky<sup>600</sup>* is for transferring residents only. Do not use the lift for any other purpose.



### WARNING:

*Maxi Sky<sup>600</sup>* is intended to be used for residents within the specified weight limit indicated for the lift. Do not attempt to lift more than the weight limit indicated.



### WARNING:

Always place the sling around the resident according to the instructions enclosed. Failure to do so may result in injury to you or to others.

## CAUTION

DO NOT drop the ceiling lift cassette or batteries, since that may cause internal damage that is not easily seen. If the ceiling lift is suspected to be damaged, contact your local ARJO representative for servicing.

# Safety Instructions

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## Important safety advices

Always ensure that:

- The ceiling lift is installed by an authorized contractor or installer.
- The equipment is used by trained staff.
- Installation is conformed to accept a 272 kg (600 lbs) load, this will be done by the ARJO installation team.
- The resident is assessed by qualified professional before attempting to move the resident.
- You are prepared before attempting to transfer a resident.
- An assessment of the suitability for transfer of a patient who is connected to electrodes, catheters or other medical devices must be conducted by qualified personnel before performing the transfer.
- Violent impact during transportation is avoided.
- The sling is intended to be used for this lift and can take the weight of the resident.
- The sling is not damaged, torn or frayed.
- The lifting procedures outlined in this manual are followed.
- All controls and safety features are used only according to the rules specified in this manual. Never attempt to force a control or button on the lift.
- The charger is not stored in a shower, bath or other areas with high humidity.
- The safety straps are in good condition and properly fastened.
- The daily maintenance is carried out before using the lift.
- Any precautionary or instruction labels that cannot be easily read is replaced.
- The humidity when storing the *Maxi Sky<sup>600</sup>*, when not in use, not exceeds 80 % at 20°C (68°F).
- The ambient temperature range when storing *Maxi Sky<sup>600</sup>* should be -10°C to +50°C (+14°F to +122°F).

## NOTE!

ARJO ceiling lifts are specifically designed for ARJO KwikTrak ceiling rail systems, slings and accessories. If slings of any other manufacturer for some reason are used, always make sure these slings are CE-marked and are attended by the manufacturer of the sling to be used on the *Maxi Sky<sup>600</sup>*.

## CAUTION

Keep all components of the lift clean and dry, and have electrical and mechanical safety checkpoints done as instructed in the Care and Maintenance section of this manual.

## Shock prevention

- Do not touch or use a lift with bare conductors or a damaged power cord. Electrically live equipment can result in serious injuries. If the lift or charger has any exposed or damaged wires contact your local ARJO representative immediately.
- Do not splash or expose electric parts of the device to water or moisture.
- Check nameplate for voltage and cycle requirements. These requirements differ by country. Do not attempt to use the lift in an area that has a different voltage and cycle requirement.
- Do not attempt to expose, service or repair the lift, battery or charger. If any unit is malfunctioning, contact your local ARJO representative.
- Read batteries and charger instructions thoroughly before using or storing them.

# Safety Instructions

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## Fire and explosion prevention



### **WARNING:**

Do not place or store the battery under direct sunlight or near a heat source. Do not expose the batteries or battery charger to flames. Do not use the charger in presence of inflammable anaesthetic gases.

- Do not short-circuit the battery terminals.
- Do not incinerate the battery.

## Human and environment safety practices

- Should the battery casing crack and cause contents to come in contact with skin or clothing, rinse immediately with water. If contents come in contact with the eyes, rinse immediately with plenty of water and seek medical attention.
- Inhalation of the contents can cause respiratory irritation. Sensitivity of nickel can cause allergic asthma. Provide fresh air and medical attention.
- For recycling and disposal of the batteries the rules according to the WEEE directive (Waste of Electronic and Electrical Components) and local rules and regulations must be followed. If not they may explode, leak and cause personal injury. When returning batteries, insulate their terminals with adhesive tape etc., otherwise, the residual electricity in used batteries may cause fire or explosion.

*Picture 2* below shows the symbols for disposal and recycling.

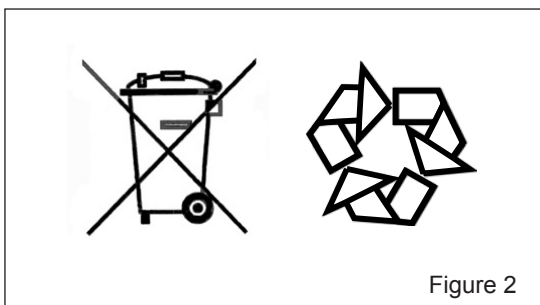


Figure 2

## Battery and battery charger safety practices



### **WARNING:**

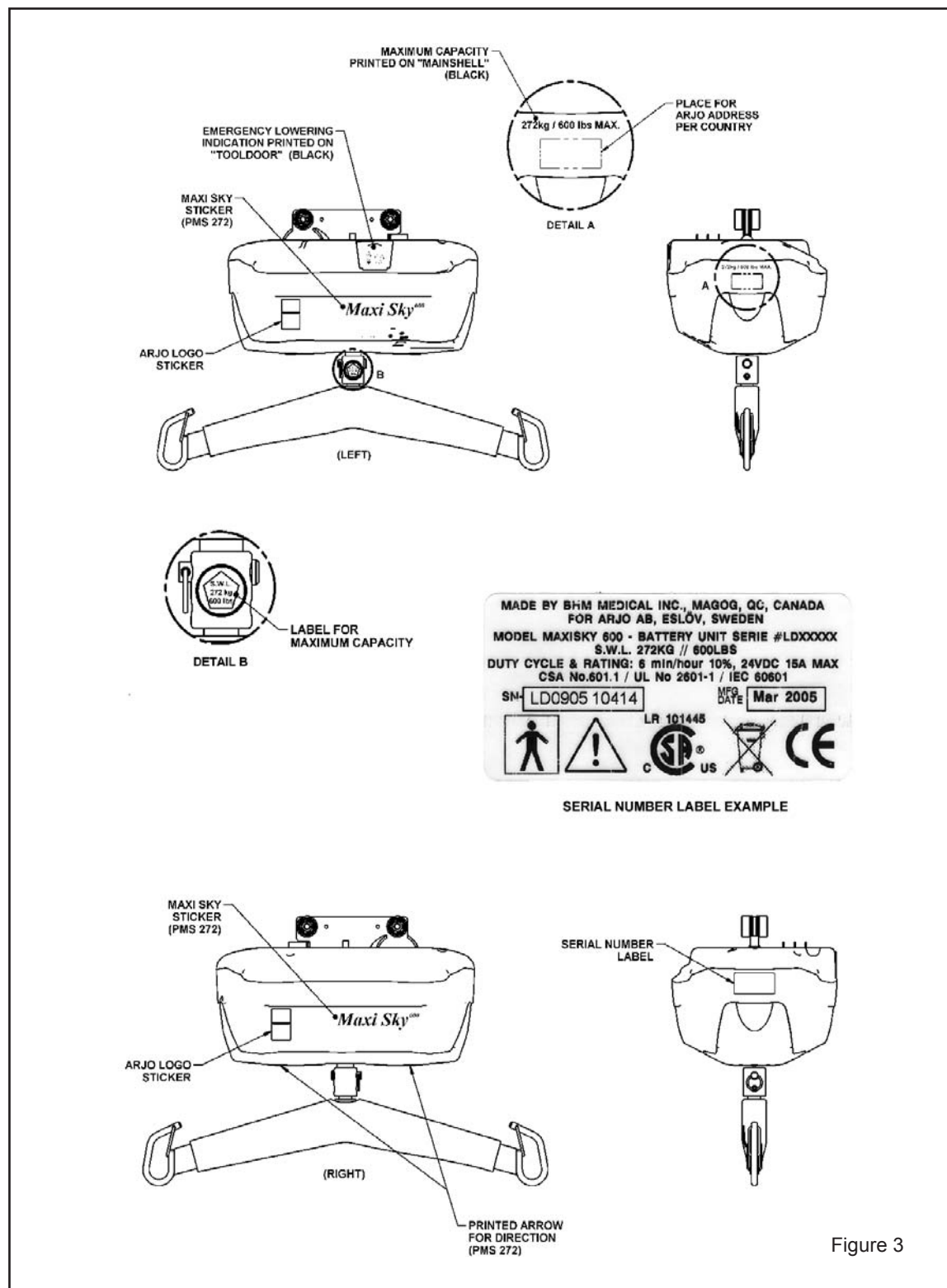
Do not expose the battery connector or the battery charger to water. The charger is designed for dry areas only and for normal air humidity conditions.

- Be careful not to drop the battery.
- Use only the charger supplied with the equipment.
- Do not charge batteries in unventilated room areas.
- The charger must not be covered or exposed to dust.
- Do not short-circuit the battery.
- Do not crush, puncture, open, dismantle or otherwise mechanically interfere with the batteries.
- Do not store batteries at a temperature higher than 50°C (122°F).

## Equipment warning labels

- Carefully read the labels on the battery and follow the instructions.
- Inspect all precautionary labels on the equipment. Order and replace all labels that cannot be easily read.

# Labels on the Lift



# Labels on the Lift

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On the ceiling lift cassette data labels you will find the following information. *See figure 3:*

## Serial number label

- Model name and number: MAXI SKY 600 #LDXXXXX.
- Approvals: CAN CSA C 22.2 No. 601.1/ UL No. 2601-1/ISO 10535.
- Charge maximum load: 272 kg (600 lbs).
- Duty cycle: Max 10%, Max 6min/hour.
- Rating: 24 VDC, 15 A Max.
- Serial number.
- Manufacturing date.



Type BF.  
Applied part: protection against electric shock in accordance with EN 60601-1, double insulated.



Read the operating instructions before use.



This symbol is required to be displayed on regulated products for sale in the European Market. It indicates that the product complies with applicable European Directive for Medical Devices.



Canadian Standards Association approval.

## SWL

Safe Working Load represents the maximum load the ceiling lifter is rated for to ensure safe operation.

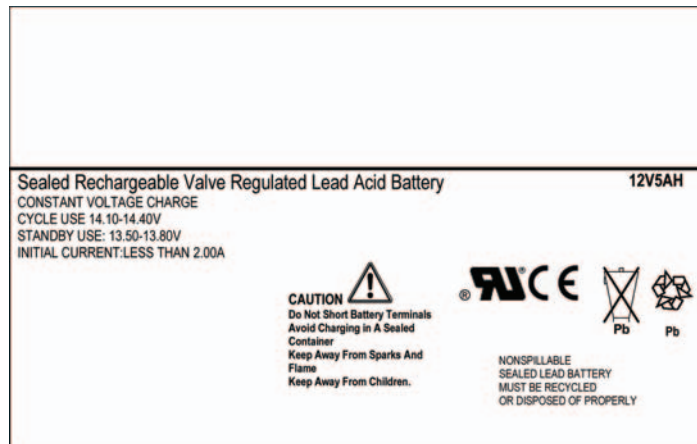


Environmental danger. Not for disposal.  
To be recycled in accordance with the European Directive 2002/96/EG (WEEE).

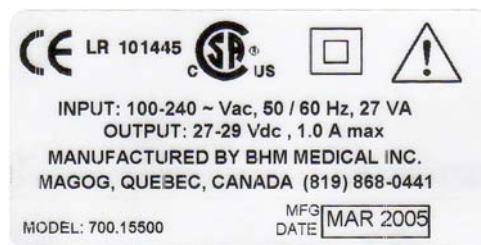
## Approval label

- CE marking in accordance with the Directive 93/42/EEC (The Medical Device Directive) and classified to class 1.
- The lift has been safety tested according to:  
IEC 60601-1  
ISO 10535  
CAN CSA C 22.2 No. 601.1.
- The lift has been EMC-tested and fulfills all requirements according to IEC 60601-1-2. ARJO is not aware of any reciprocal electromagnetic interference between *Maxi Sky<sup>600</sup>* and other electrical products.

# Labels on the Battery & Battery Charger



Battery label



Battery charger label

Figure 4

# Labels on the Battery & Battery Charger

On the ceiling lift cassette battery label and the battery charger label you will find the following information. See figure 4:

## Battery label

- Type: Sealed Rechargeable Valve Regulated Lead Acid Battery.
- Constant Voltage Charge.
- Cycle use: 14.1 - 14.4 V.
- Standby use: 13.5 - 13.8 V.
- Initial current: Less than 2.00 A.
- Rating: 12 V, 5 Ah.



### CAUTION

Do not short battery terminals.  
Avoid charging in a sealed container.  
Keep away from sparks and flames.  
Keep away from children.



Approval of plastic materials according to:  
UL No. 2601-1.



This symbol is required to be displayed on regulated products for sale in the European Market. It indicates that the product complies with applicable European Directives related to health, safety and environment and consumer protection.



Environmental danger. Not for disposal.  
To be recycled in accordance with the European Directive 2002/96/EG (WEEE).



Recyclable.

## Battery charger label



This symbol is required to be displayed on regulated products for sale in the European Market. It indicates that the product complies with applicable European Directives related to health, safety and environment and consumer protection.



Canadian Standards Association approval.



Insulation class II



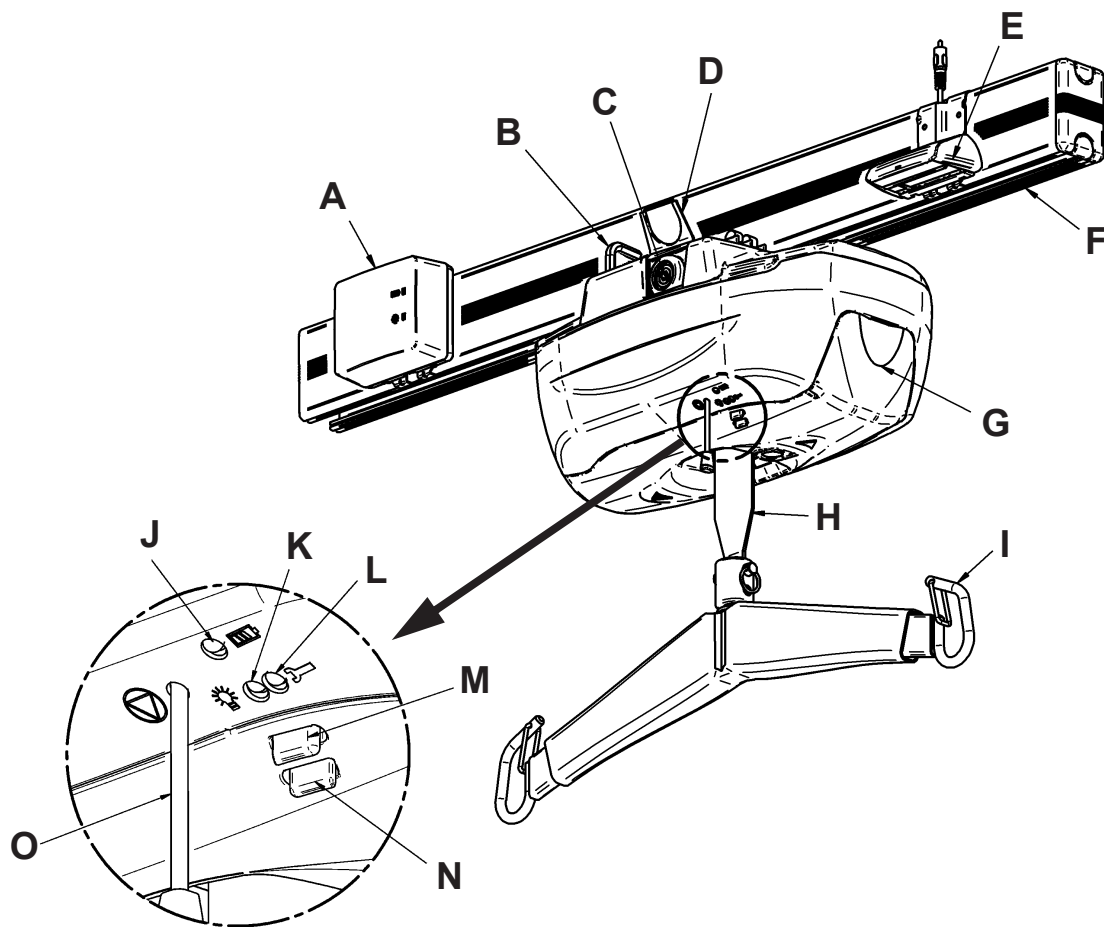
### CAUTION

Read the operating instructions before use

- Input: 100-240 Vac, 50/60 Hz, 27 VA
- Output: 27-29 Vdc, 1.0 A max.

# Part Designation

## Lift cassette and charger station



- |   |                 |   |                         |
|---|-----------------|---|-------------------------|
| A | Charger         | I | Spreader bar            |
| B | Allen key       | J | Yellow light            |
| C | Manual lowering | K | Green light             |
| D | Door            | L | Red light               |
| E | Charger station | M | Down button             |
| F | Rail            | N | Up button               |
| G | Lift            | O | Red emergency pull cord |
| H | Strap           |   |                         |

Figure 5



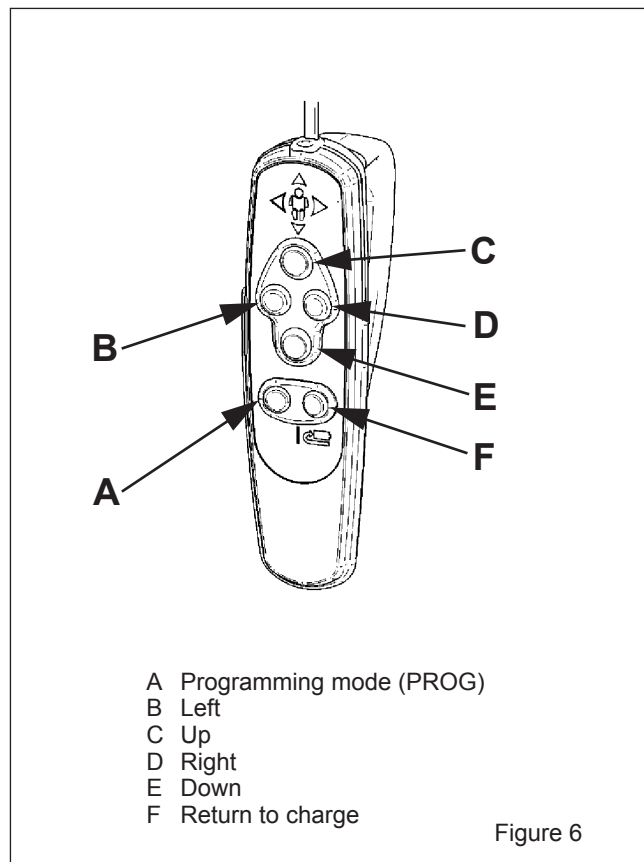
# Part Designation

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The following refer to *figure 5* on former page.

- The yellow light "charger" flashes while charging and illuminates when charge is finished.
- The green light "on" illuminates once the lift is on and ready for use; the green light flashes when the batteries are low.
- The red light illuminates to confirm that the lift is in the programming mode.
- The red light illuminates in the normal mode when the lift is under overheat protection caused by an overuse.
- The red light "service" flashes when servicing is required (contact customer service).

## Hand control



- The button "Programming mode" allows you to modify the functions of the lift.

# How to use the *Maxi Sky*<sup>600</sup>

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## WARNING:

Always read the Safety Instructions before using the *Maxi Sky*<sup>600</sup>.

- The track must be installed by ARJO authorized personnel and in accordance with local codes.
- All track are closed with end stoppers or are connected to other closed track component.
- Before use, make sure all end stoppers are in place and tightened.

## NOTE!

The unit will not lift or lower when it is in charging position.

- 1 Attach the resident sling. See *Use of Slings* section in the user manual for further information.
- 2 Move the ceiling lift directly over the resident. Use the left and right buttons on the hand control. See figure 7 on next page.
- 3 Use the down button on the hand control to lower the spreader bar under the chin of the resident (to avoid the risk of facial contact caused by a sudden movement of the spreader bar).

## NOTE!

If the ceiling lift does not work, gently pull the red cord until you hear a click. The green light should illuminate.

In a laying down position, lower the spreader bar near the resident's thorax, then install the straps.

## CAUTION

**Hold the ceiling lift spreader bar with one hand at all times when near a resident.**

- 4 Attach the straps to the desired position. See *Use of Slings* section.

- 5 Carefully observe the resident to ensure his/her safety as you press the control buttons.



## WARNING:

Before lifting the resident, make sure that all straps are attached to the spreader bar. Make sure the sling is not caught on any obstruction (wheelchair brake or arm of the chair).

Also make sure that the spreader bar is correctly fixed to the ceiling lift, see figure 8 on next page.

- 6 To lift the resident, press the UP button.
- 7 Make sure the resident is clear of any obstacles before moving the resident. Guide the legs if necessary.
- 8 When the resident is located above the desired point of transfer, press the DOWN button.
- 9 Use the handles on the back of the sling to position the resident when transferring into a chair. Hold the hand control firmly as the sling will tilt back to position the resident.
- 10 Once the resident is properly seated and the straps are loose, remove the sling from the ceiling lift.

## CAUTION

**Hold the ceiling lift spreader bar with one hand at all times when near a resident.**

- 11 Slide the ceiling lift away from the resident.
- 12 When the ceiling lift is no longer required, return the lift to the charger station by pressing the return to charge button. The charging indicator light must be on for the ceiling lift to detect the clip on charger station. Please notice that the ceiling lift has memorized the charger station position automatically.

# How to use the *Maxi Sky*<sup>600</sup>

- 13 Verify the green light at the charger station and the yellow light (flashing or light) on the ceiling lift to ensure that charging function is working properly.

## NOTE!

The *Maxi Sky*<sup>600</sup> is equipped with a security system to prevent a misuse of the lifting system. If the use is over the specified duty cycle, the heat detection system will signal to the processor to block the lifting of a load until transmission temperature cools down. Therefore, it will always be possible to activate the horizontal displacement and the down functions.

When the overheat protection is engaged the red light will illuminate during the cooling period.

Plus, a buzzer will be heard if the UP button is engaged and the motor will not lift. The cooling period is between 10 to 30 minutes depending on the ambient conditions.

## Return to charge (RTC)

At the activation of the Return to charge function, the spreader bar will raise all the way up to avoid any obstacles during the run. When the lift is at the charging station, the spreader bar lowers by itself to the adjusted height to be easily accessible.

## NOTE!

You can stop the Return to charge at any time by pressing any button on the hand control or by turning the lift off (pulling the red cord). Moreover, a weight detector disables the RTC function to run while a person is installed in the lift.

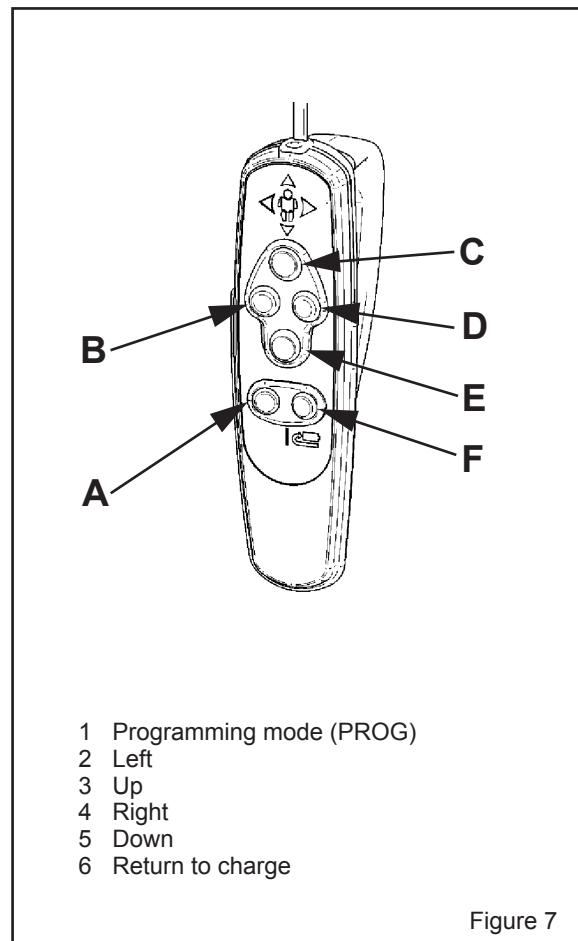


Figure 7

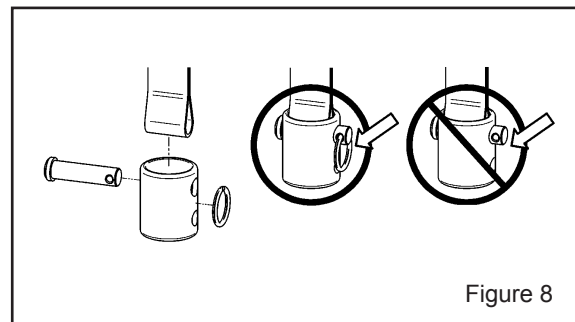


Figure 8

# How to use the *Maxi Sky*<sup>600</sup>

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## Emergency stop (Red cord)

- 1 The emergency stop can be activated at any time to stop the function of the ceiling lift.
- 2 To stop the ceiling lift in any emergency, pull the red emergency cord gently once, until you hear a “click”. *See figure 9.*

### CAUTION

**Do not pull the red cord forcefully. If the cord is pulled too forcefully, the ceiling lift may become inoperable.**

- 3 To activate the ceiling lift, pull the red cord gently once. The green light confirms that the ceiling lift is on and ready for use.

## Emergency lowering

In the unlikely event of an electrical failure, the *Maxi Sky*<sup>600</sup> has an emergency manual lowering feature. *See figure 10.*

### CAUTION

**Only to be used in case of an emergency.**

If the ceiling lift malfunctions when a resident is being transferred, the emergency lower device provides a safe way of getting the resident onto a chair, bed or wheelchair.

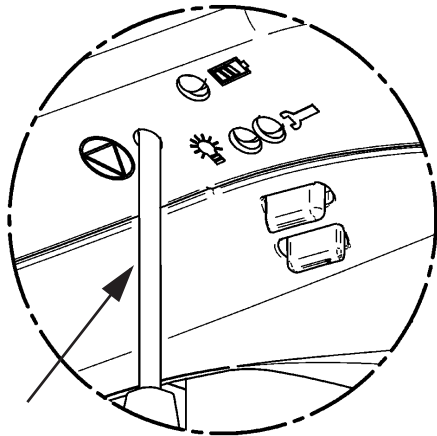
- 1 Remove the 8-mm Allen key on the top of the ceiling lift. *See figure 11.*
- 2 Open the side door to access the mechanism.
- 3 Insert the Allen key deep into the axle, visible in the lateral door. *See figure 12.* Turn it counter clockwise in order to lower the resident. Each turn of the key will slowly lower the resident.
- 4 To lower the resident more rapidly, use a ratchet or a drilling machine with an 8-mm Allen key.
- 5 Once the resident is lowered and secured onto a chair, bed or wheelchair, call qualified technician to inspect the ceiling lift.

## Emergency brake

The emergency brake is made of a metal bar fixed to the drum.

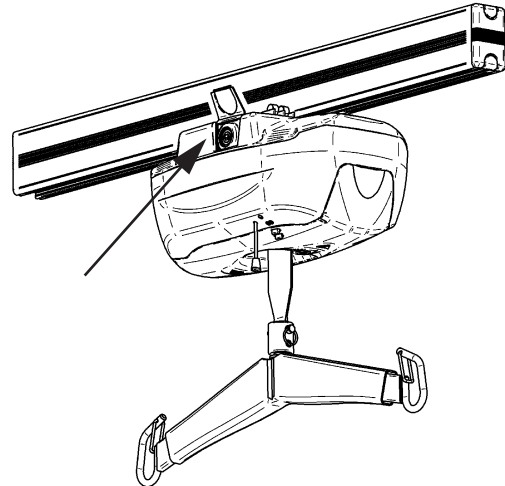
In case of a gear or motor breakage, the centrifugal force created will block the bar against the frame. Exactly like a car seat belt.

# How to use the *Maxi Sky*<sup>600</sup>



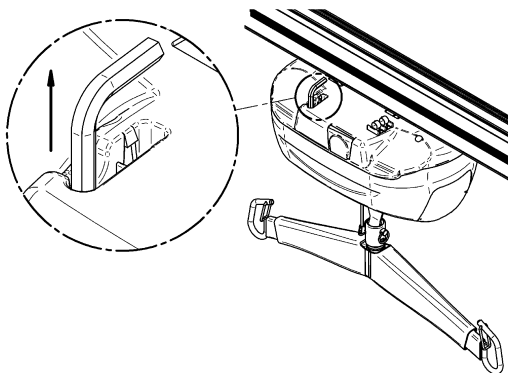
Red emergency pull cord

Figure 9



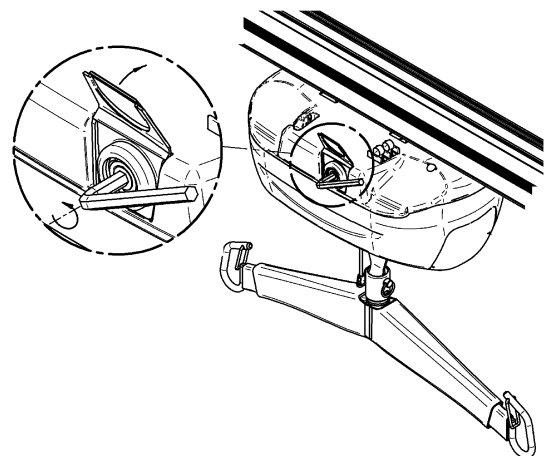
Emergency lowering

Figure 10



Remove Allen key

Figure 11



Turn counter clockwise

Figure 12

# How to use the *Maxi Sky*<sup>600</sup>

---

## Battery information

The life cycle (number of charging cycles) of the batteries is largely dependent on the depth of discharge in each cycle. The more the batteries are drained, the shorter their life span. The life of the batteries is also related to such factors as varying temperatures and rest periods between charge and discharge.

*Figure 13* illustrates the relationship between the discharging depth and expected battery life.

If you drain the batteries until they beep every time, you can expect the batteries to fully charge only 600 times.

### NOTE!

**To prolong battery life, return the ceiling lift to the charger whenever the ceiling lift is not in use.**

**If the low battery buzzer sounds, and a green light flashes, be sure to recharge the batteries as soon as possible. At minimum, charge the batteries until the light is solid yellow before using it again. This will extend the life of the batteries.**

### NOTE!

**ARJO uses sealed lead-acid batteries. Contrary to nickel-cadmium, ARJO batteries do not have any memory effect. Therefore, batteries should not be completely drained before recharge.**

See *figure 14* for illustration of number of lifts vs load.

## CAUTION

**Never leave a ceiling lift with the power on for a long period of time, if you do not return the ceiling lift to the charger. As the batteries will be drained and damaged.**

## Indicator lights

The ceiling lift and the charging system have many indicator lights. It is important to understand their significance for use and comprehension of the ceiling lift. See *figure 15*.

## Charging the batteries



### WARNING:

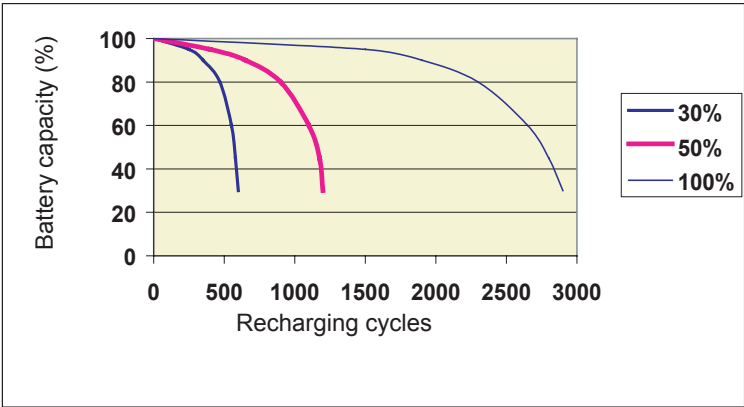
**Do not operate the charger unit with a damaged cord or if the unit has been dropped or damaged.**

**Do not bend the power cord by force, or place a heavy object on it. This will damage the cord and may cause fire or electrical shock.**

The recharging steps are as follow:

- 1 Press the return to charge button on the hand control. A protection device prevents the ceiling lift from returning to the charger if a resident is in the ceiling lift during this operation.
- 2 The green indicator light will begin flashing if batteries are low and need to be recharged. If the light does not illuminate, verify the *Troubleshooting* section of this manual.
- 3 The yellow indicator light will flash when the ceiling lift cassette has returned to the charger and the batteries are being charged. Once the charge is complete the light will stop flashing and become a solid yellow light.

# How to use the *Maxi Sky*<sup>600</sup>



Graph 1: Number of recharges vs depth of discharge Figure 13

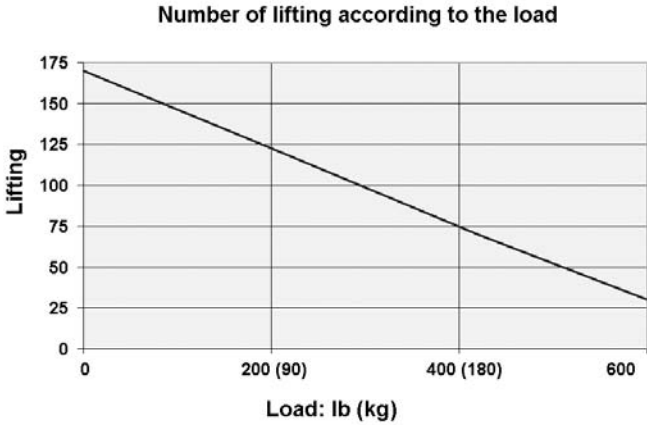


Figure 14




<div>Green light</div> <div></div>	Operating the lift	
	.....	Low batteries
	————	The lift is on and ready to use
<div>Yellow light</div> <div></div>	State of batteries	
	.....	In process of charging batteries
	————	Charging done, batteries charged
<div>Red light</div> <div></div>	Maintenance	
	.....	Maintenance required by your local representative
	————	Lift started by service mode or under overheated protection
Charging indicator green light	Turn on	Charger on
Clip on charger station indicator green light	Turn on	Clip on charger station on

Figure 15

# How to use the *Maxi Sky*<sup>600</sup>

If the batteries have been completely drained it could take up to 6-8 hours to completely recharge them. In order to reduce the charging time, refrain from completely draining the batteries and leave the ceiling lift on the charger station between uses.

## Using the FIDO function (pre-programmed positions)



### WARNING:

**This function can only be activated by an certified technician.**

- 1 Using the pre-programmed positions allows the unit to detect stations (positions) located along the track path. The unit will go to the indicated position by using the hand control.
- 2 To do so, indicate to the unit the desired position to go: ex.; to go to the third station push three times on the PROG button followed by the direction (LEFT or RIGHT buttons).

Then the unit goes by itself to the requested station and stay on hold.

If the position you asked for is not correct, you may stop the ceiling lift at any time by pressing any button on the hand control. From this position, reprogram the ceiling lift to the new desired position. Count the number of stations from where you are and indicate the direction to go.

## Programming the ceiling lift

How to program the *Maxi Sky*<sup>600</sup>. The user can easily adjust the speed, the height and the return to charge of the ceiling lift while in programming “Service” Mode.

### A) Enter into the “Program” mode

- 1 Turn the ceiling lift off by pulling the red pull cord (the green light must be turned off).
- 2 Press and hold down the PROG button on the hands control. *See figure 16.*

- 3 While holding the PROG button, pull the red pull cord once again.
- 4 The green light will flash and the ceiling lift will beep three times.
- 5 Release the PROG button.
- 6 When the red light illuminates, this will confirm that the ceiling lift is in programming mode “Service”.

Use the UP button on the hand control to select the parameters desired. Each push on the button will bring you to a different selection:

- 1 beep = Speed displacement
- 2 beeps = Height of the spreader bar
- 3 beeps = Enable/Disable return to charge.

To confirm your selection, press once on the “A” button.

### B) Speed adjustment

- 1 Enter into “Service” Mode and select the first choice (See *Section A* previous page).
- 2 Use the LEFT button on the hand control to select the desired speed as per selection chart below. Each push on the button allows you to go from one selection to the next.

1 beep	2 beeps	3 beeps*	4 beeps
10 cm/sec	15 cm/sec	20 cm/sec	25 cm/sec

\* Standard from factory.

- 3 To confirm your choice of speed, press the PROG button.
- 4 You can now choose a new selection by pressing the UP button on the hand control. If not, turn the ceiling lift off. Then turn it back on by gently pulling the red cord. This will return the ceiling lift to normal use.



# How to use the *Maxi Sky*<sup>600</sup>

## C) Adjust the height of the spreader bar when it returns to charger

- 1 Enter into “Service” mode and select #2 (See *Section A*).
- 2 The strap will completely rewind.
- 3 Once the spreader bar is completely rewound, use the UP and DOWN buttons to position the spreader bar to desired height when returning the unit to the charger.
- 4 To confirm the height desired, press the PROG button.
- 5 You can now choose a new selection by pressing the UP button on the hand control. If not, turn the ceiling lift off. Turn it back on again by gently pulling the red cord. This will return the ceiling lift to normal use.

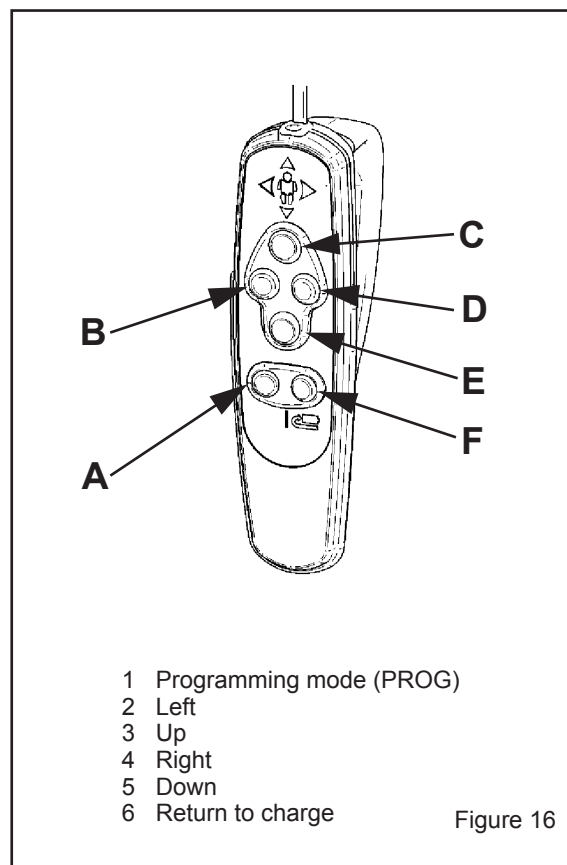
## D) Enable / Disable - Return to charge

- 1 Enter into “SERVICE MODE” and select the third choice (section A).
- 2 Use the hand control left button to select ENABLE, ENABLE BUT MOVE LEFT ONLY or ENABLE BUT MOVE RIGHT ONLY or DISABLE selection.

1 beep*	2 beeps	3 beeps	4 beeps
Enable automatic	Disable	Enable left	Enable right

\* Standard from factory.

- 3 To confirm your selection press on the “PROG” button.
- 4 Now you can choose a new selection by pressing on the UP button on the hand control, if not, turn the ceiling lift off and back on by gently pulling the red cord to return the ceiling lift to normal use.



# Use of Slings

## Dynamic Positioning System (DPS), spreader bars and stretcher frame



### WARNING:

Spreader bar must only be installed by a qualified person.



### WARNING:

Before using the *Maxi Sky*<sup>600</sup> always ensure the strap attachment pin (see fig. 17) is re-fitted correctly through the spreader bar socket and lift strap, and that the securing ring is correctly inserted through the hole in the pin.

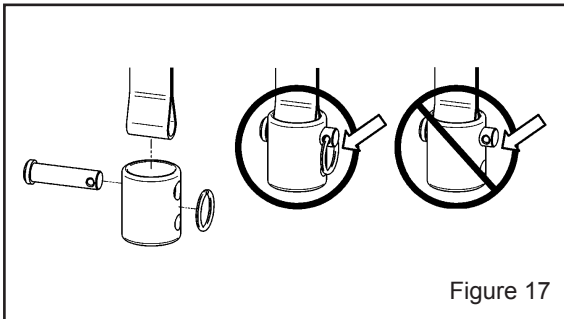


Figure 17

## Slings

The slings that can be used with the *Maxi Sky*<sup>600</sup> depend on which type of spreader bar is fitted.

The Dynamic Positioning System (DPS) use any of the ARJO four point slings with attachment clips.

The two point spreader bar with sling attachment hooks uses any of the ARJO loop attachment slings.



### WARNING:

Do not use slings with attachment clips on spreader bars with hooks or slings with attachment loops on spreader bars with lugs.

## NOTE!

Sling capacity is indicated on sling labels. (Important: do not exceed maximum weight limit of lifter or spreader bar/attachment).

All slings are coded for size by having different coloured edge binding or attachment strap colouring as follows:

Teal - Extra Extra small - XXS

Brown- Extra small - XS

Red - Small - S

Yellow - Medium - M

Green - Large - L

Blue - Extra Large - XL

Terracotta - Extra Extra Large -XXL

All types of sling offer the option of a headrest if it is considered necessary for a particular resident. A range of special purpose slings are available as accessories, for these or for special size slings, contact your ARJO representative.



### WARNING:

Only use ARJO supplied stretchers that are designed to be used with *Maxi Sky*<sup>600</sup>. For sling use please refer to the note on page 10.



### WARNING:

If ARJO *Flites* (disposable slings) are to be used with the *Maxi Sky*<sup>600</sup>, then always refer to the separate operating instructions for ARJO *Flites*, (literature reference part No. MAX01720), as well as these instructions before using.

# Use of Slings

---



## **WARNING:**

ARJO clip attachment slings with head support have two pockets at the head section which should contain plastic reinforcement inserts during use. Always ensure these reinforcement inserts have been fitted into the sling pockets before using the sling.

## **Before approaching the resident**

Ensure a selection of sling types and sizes are easily available for all types of activity likely to be encountered when using the *Maxi Sky<sup>600</sup>*.

For residents weighing up to 190 kg/420 lbs (200 kg /440 lbs - XXL large slings only), the four point sling range with either of the DPS's (Dynamic Positioning System) can be used.

For residents weighing up to 200 kg (440 lbs) the loop slings and two point spreader bar can also be used, depending on individual requirements.

The attendant should always tell the resident what they are going to do, and have the correct size sling ready. Where possible, always approach the resident from the front.

## **NOTE!**

If in any doubt as to the weight of the resident, select a sling from the loop range with two point spreader bar then use a resident scale to check the weight prior to accurate sling selection.

# Use of Slings

---

## Installing the sling on the Dynamic Positioning System (DPS)

The Dynamic Positioning System (DPS) and the two points spreader bar are suspended lifting frames that support the patient sling. Different ARJO spreader bars may be used with the *Maxi Sky 600*.

### To lift a resident from a bed

The lifting technique described can be used for reclining residents regardless of where they may be lying: on the bed or on the floor of the exercise area.



#### **WARNING:**

**IMPORTANT:** Always check that the sling attachment clips are correctly attached and remain in tension as the weight of the resident is gradually taken up. See *figure 18*.

Roll the resident towards you, fold the sling in half and place it behind the back of the resident. See *figure 19*.

Ensure that the sling is positioned so that when rolled back, the resident will lie centrally on the sling. See *figure 20*. Also check that the head support area of the sling covers the neck of the resident.

Roll the resident back onto the sling and then slightly further in the opposite direction, so that the folded part of the sling can be brought out.

If the resident can sit easily, the sling can be positioned in the same manner as if the resident was seated in a chair. See section “*To lift from a Chair*”.

Position the *Maxi Sky<sup>600</sup>* directly over the resident. See *figure 21*.

Using the hand control, lower the spreader bar and connect the sling shoulder strap clips, taking care not to lower the frame onto the resident. See *figure 22*.

For instructions on how to use the DPS, refer to page 38.

Tilt the frame until connection of the leg strap clips is possible. See *figure 23*.

The straps must be brought under the thighs. This may involve lifting one leg at a time, and may mean lowering the frame a little more.

When lifting from the bed, some operators prefer to connect the leg strap clips first. This in particular applies to residents with large thighs.

To use this method, raise the hip and knee into maximum flexion, and hook up the leg strap clips.

Tilt the frame towards the shoulders and then attach the shoulder strap clips.

Ensure that all four points of the sling are securely attached to the frame, then lift the resident using the hand control, positioning him/her comfortably for transfer. See *figure 24*.



#### **WARNING:**

**To avoid the resident swinging excessively during lifting, the lift strap should be as vertical as possible, immediately prior to the lift.**

Proceed with resident transfer to a chair as in section “*To lift from a Chair*”, or replace the resident onto a bed, (reversing the above procedure), by moving the resident into the desired position and then lowering.

When the body weight is fully supported, detach the leg strap clips, then the shoulder connections.

Move the spreader bar away before removing the sling from under the resident.

# Use of Slings

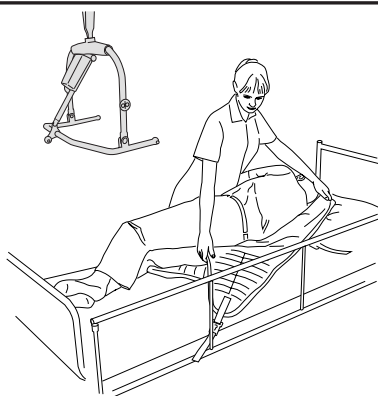
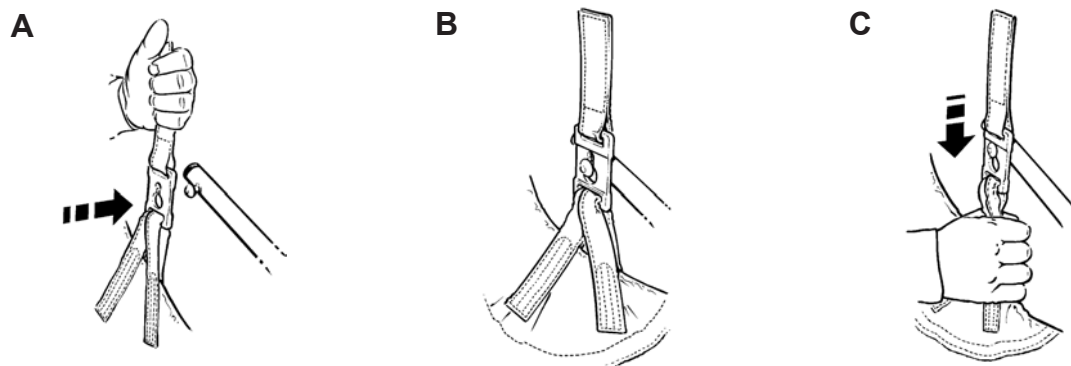


Figure 19

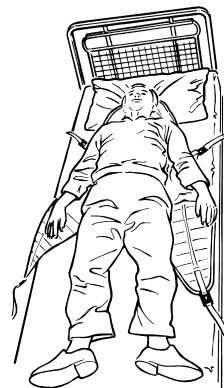


Figure 20

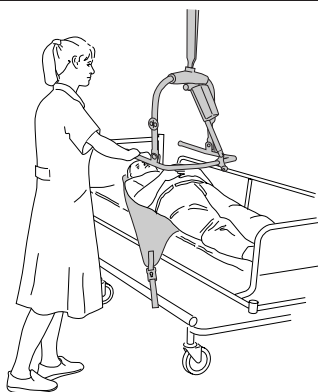


Figure 21

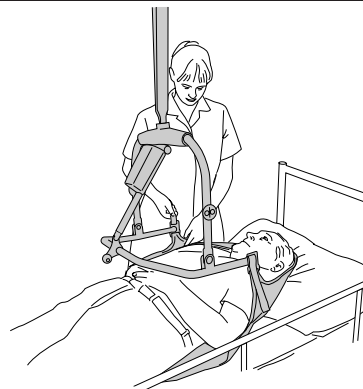


Figure 22

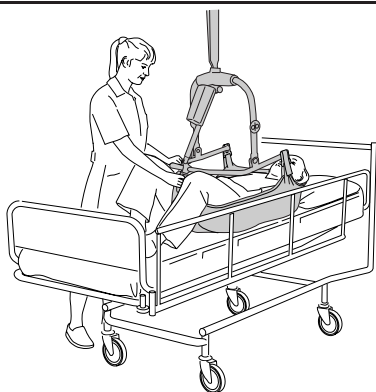


Figure 23

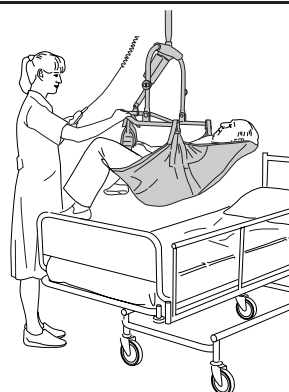


Figure 24

# Use of slings

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## To lift a resident from a chair

The lifting techniques described can be used for seated residents regardless of where they may be seated, on the edge of a bed, in a chair, wheel-chair or similar.



### WARNING:

**IMPORTANT:** Always check that the sling attachment clips are correctly attached and remain in tension as the weight of the resident is gradually taken up. See figure 25.

Place the sling around the resident so that the base of his/her spine is covered, and the head support area of the sling is behind the head. See figure 26.

Pull each leg strap under the thigh so that it emerges on the inside of the thigh.

Before approaching the resident with the *Maxi Sky<sup>600</sup>*, ensure that:

- the spreader bar is in sitting position (please refer to page 39 to get instructions on how to change position).
- the wide part of the spreader bar is at, or just below shoulder level. See figure 27.

Position the spreader bar close enough to be able to connect the shoulder strap clips of the sling to the frame.

Connect these first, then tilt the frame and attach the leg sections. See figure 25.

If necessary, lower the spreader bar a little, being careful not to lower it onto the resident.

Ensure that all four strap clips are securely connected, then raise the resident using the hand control.

The head support area of the sling should now come into use.

This is the most comfortable position for transfer or transportation, as it reduces pressure on the resident's thighs.

The angle of recline can be increased for the comfort of more restless residents, when lowering the resident back into a chair or transferring to a chair from the bed.



### WARNING:

**Take care not to push down too quickly, as this may jerk the resident's head forward.**

Before transportation, turn the resident to face the direction of travel, and keep at a normal chair height - this gives confidence and dignity.

Avoid lifting the resident higher than the eyes of the attendant to lessen the impression of height to confused residents.

Support the resident to stop excessive swinging and to give a feeling of added security. See figure 30.



### WARNING:

**Ensure any obstructions are removed from the intended route of travel**

## CAUTION

**Do not attempt to pull the cassette along the track using the hand control cable. This will damage the cable and eventually ruin the function of the hand control.**

# Use of Slings

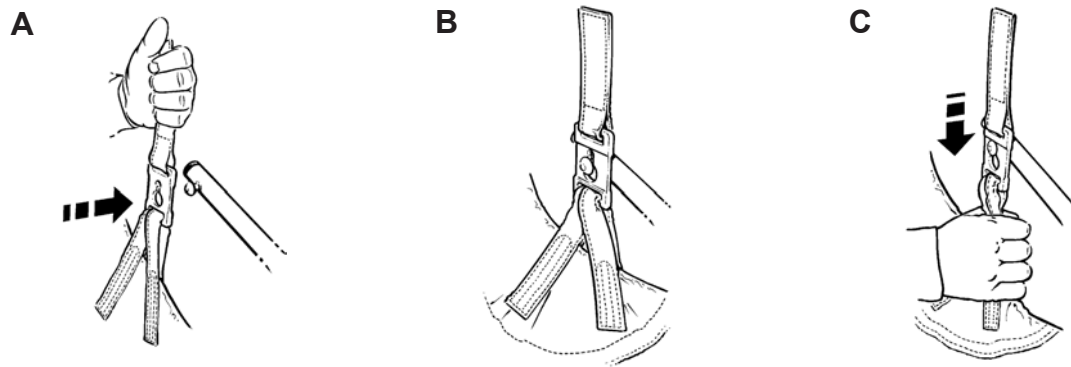


Figure 25

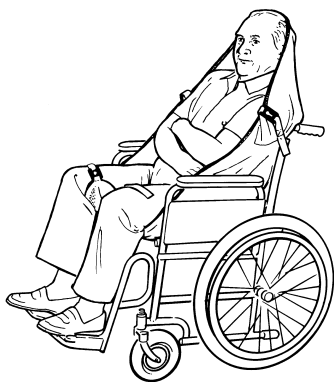


Figure 26



Figure 27

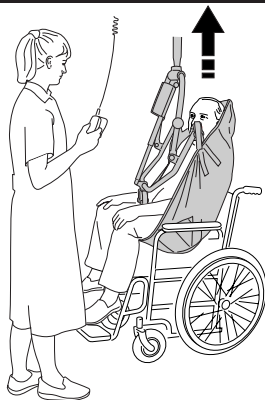


Figure 28

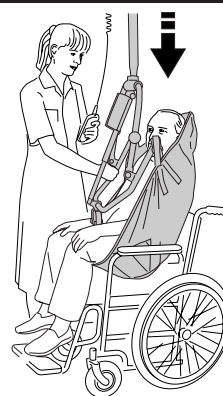


Figure 29

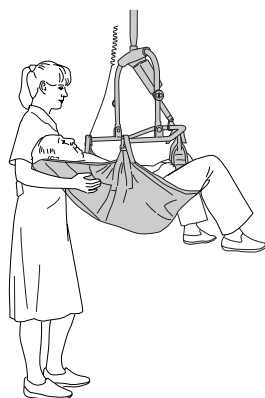


Figure 30

# Use of Slings

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## To lift a resident from the floor



### **WARNING:**

**IMPORTANT:** Always check that the sling attachment clips are correctly attached and remain in tension as the weight of the resident is gradually taken up. See *figure 31*.

The resident can be lifted from a completely reclined position on the floor, but for his/her comfort, put a pillow under his/her head first. See *figure 32*.

When lifting a resident from the floor it is essential to ensure the resident is situated directly underneath the *Maxi Sky<sup>600</sup>* cassette, to avoid excessive swinging or dragging as the weight of the resident becomes suspended.

Place the sling around the resident as in section “*Lifting from a Bed*”.

Attach the shoulder strap clips first, then with the open part of the sling support frame pointing downwards towards the shoulders, connect the leg strap clips.

Adjustment of the spreader bar height may have to be made before connection is possible.

When lifting from the floor, some operators prefer to connect the leg strap clips first. (This in particular applies to residents with large thighs).

To use this method, raise the hip and knee into maximum flexion and hook up the leg strap clips.

Tilt the frame towards the shoulders for attaching the shoulder strap clips.

When all the connectors are securely attached, raise the resident from the floor in a semi-recumbent position. See *figure 33*.



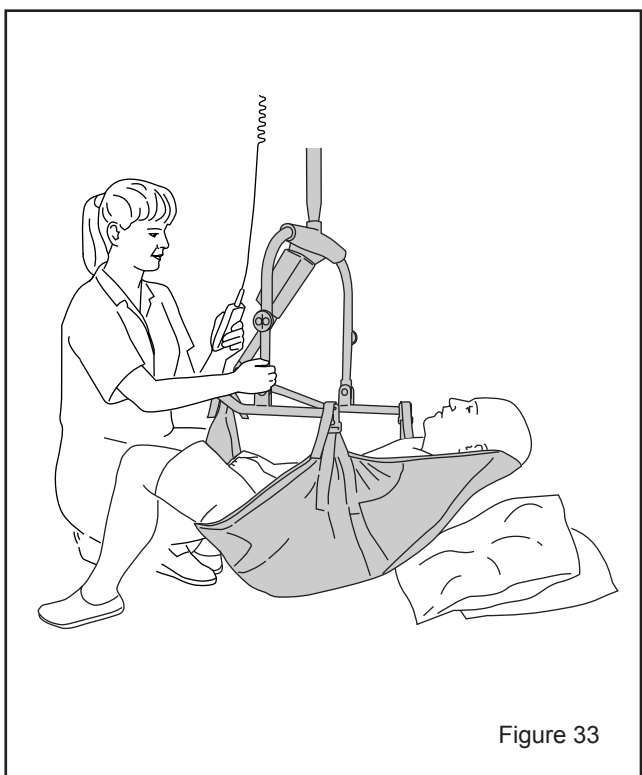
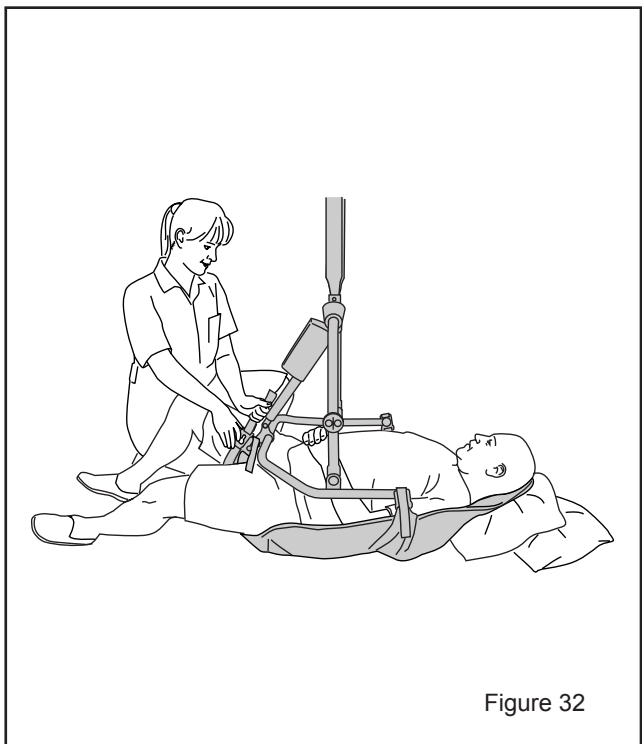
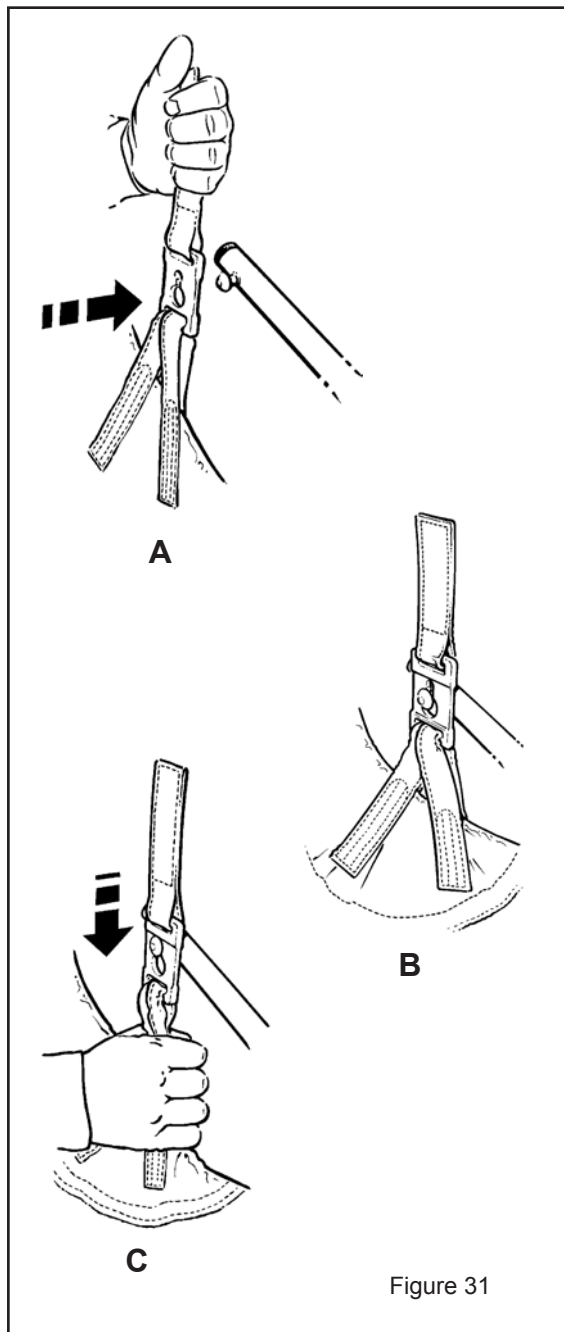
### **WARNING:**

**To avoid the resident swinging excessively during lifting, the lift strap should be as vertical as possible, immediately prior to the lift.**

The resident may then be positioned in a chair, or placed on a bed. Residents with extensor spasm may be lifted by the *Maxi Sky<sup>600</sup>*, but special attention should be paid to supporting the resident's legs during the early part of the lift.



# Use of Slings



# Use of Slings

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## Procedure for using loop slings with two point spreader bar



### WARNING:

**Spreader bar must only be installed by a qualified person.**

Loop slings are fitted to the resident in much the same manner as with the four-point slings mentioned previously.

The slings to be used with the two point spreader bar are the ARJO loop slings. They are available in four sizes (small, medium, large and extra large) all colour coded. A range of more specialised slings are available, please contact ARJO or their authorised distributors for details.

The loop sling is available with or without head support. A bathing mesh sling is also available in all the four sizes with or without head support.

The correct size sling will support the shoulders.

## Procedure for attaching loop slings to the two point spreader bar



### WARNING:

**The two point spreader bar (see figure 34) has hooks for use only with slings equipped with loops.**

**When attaching a loop sling to the two point spreader bar, always ensure the sling attachment loops are positioned correctly into the retaining hooks as shown in the inset in figure 34.**



### WARNING:

**Do not use slings equipped with clips on the two point spreader bar, these require spreader bars that are fitted with attachment lugs.**

The spreader bar has two hooks at either end of the bar, always use these for the shoulder strap loops.

The specific sling loops chosen determine the position of the resident.

Different combinations of loops can be used to allow the resident to be lifted and transported in positions ranging from semi-reclined to seated.

Once the loop sling has been fitted around the resident there are three methods of applying the loop sling, with each of the three methods described it is necessary to first connect each shoulder loop (points **A**), of the sling to the (same side) hook on the spreader bar. *See figure 35.*

**Method 1:** With the sling correctly positioned around the resident, slide the left hand leg section of the sling under the resident's left thigh and the right hand leg section under the resident's right thigh, attach each leg loop (points **B** figure 35) of the sling to the "opposite side" outer hook on the spreader bar. *See figure 36.*

**Method 2:** With the sling correctly positioned around the resident, pass each leg section of the sling under both thighs of the resident, then attach each leg loop (points **B** figure 35) to the outer hook (opposite side) on the spreader bar. *See figure 37.*

**Method 3:** With the sling correctly positioned around the resident, slide the left hand leg section of the sling under the resident's left thigh and the right hand leg section under the resident's right thigh, then attach each leg loop (points **B** figure 35) to the same side hook on the spreader bar. *See figure 38.*

This particular method holds the residents legs in abduction, and is useful for toileting.

Apart from the methods listed above, the two point spreader bar with loop slings is also extremely useful for lifting residents who have contracted legs, where the resident leg position prohibits the use of the DPS. Attach the sling in the normal manner as described in section "To lift a resident from a bed".

# Use of Slings

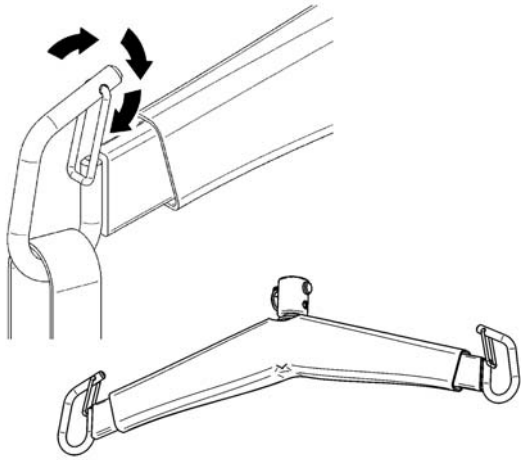


Figure 34

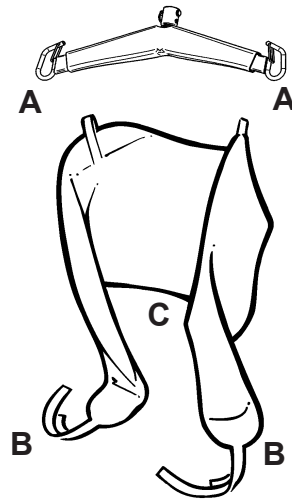


Figure 35

## METHOD 1



Figure 36

## METHOD 2



Figure 37

## METHOD 3



Figure 38

# Use of Slings

## To lift a resident from a bed

If the resident cannot attain a sitting position, then roll the resident toward you, fold the sling in half length-wise and place it along the resident's back. Position the sling so that when rolled back, the resident will lie in the middle of the sling.

Align the bottom of the sling with the resident's coccyx. *See figure 39.*

When the resident is lying in the correct position on the sling, carefully flex the resident's legs and bring the sling "leg pieces" under the thighs, ready to attach the complete sling to the two point spreader bar.

If the resident can sit easily, the sling can be positioned the same way as if the resident was seated in a chair: i.e. by easing the resident forward, (if necessary) slide the sling down the resident's back until seam **C** (*see figure 35*) reaches the base of the spine. Take attachment points **B** and pass the leg sections of the sling underneath the residents thighs, as appropriate to the method of lifting (*see following Methods*) ensure the sling sections are not twisted underneath the resident.

Attachment of the sling to the two point spreader bar can be done using any of the methods described later, depending on suitability.

## To lift a resident from a chair

Lower the spreader bar until you can easily attach the loops of the sling, use your hand to stabilise it, taking care not to allow the bar to touch the resident.

### NOTE!

**The design of the spreader bar and sling allows one person to perform the lift.**

Once the sling has been positioned and attached securely to the spreader bar as described in any of the methods 1 to 3, lifting can be carried out using the control handset.

For general resident manoeuvring and transportation see also section "Using Dynamic Positioning System (DPS)".

Avoid lifting the resident higher than the eyes of the attendant to lessen the impression of height to confused residents.



### WARNING:

**Important: Always hold the spreader bar until at least a couple of loops are attached to the spreader bar, to prevent it from striking the resident. See figure 40.**

Before removing the loops from the hooks, hold on to the spreader bar with your hand so the spreader bar will not strike the resident

## To lift a resident from the floor

(Some attendants prefer to use a larger sling for this operation)

Raise and support the resident into a sitting or half sitting position. *See figure 41.* Slide the sling down the resident's back as described previously, bring the leg sections of the sling into position and under the residents thighs. Lower the spreader bar (taking care not to bump against the resident) until the spreader bar is low enough to attach the sling shoulder loops. Flex up the residents knees to connect the leg pieces of the sling



### WARNING:

**Check that the sling attachment loops are securely positioned within the spreader bar hooks. See figure 34. Before lifting the resident and that the loops remain that way as the resident is gradually lifted.**

When the resident has been returned to the bed he/she maybe reclined before the sling is detached from the spreader bar.

## Before transporting a resident

Turn the resident to face the direction of travel, and keep at a normal chair height - this gives confidence and dignity.



### WARNING:

**Ensure any obstructions are removed from the intended route of travel.**



### WARNING:

**To ensure maximum resident comfort, do not allow the resident to hold onto the spreader bar.**

## Using stretcher frames and stretchers

### NOTE!

If it is intended to use any of the ARJO resident stretcher frames and stretchers with the *Maxi Sky<sup>600</sup>* always refer to the separate relevant stretcher frame and stretcher operating instructions supplements before use.

# Use of Slings

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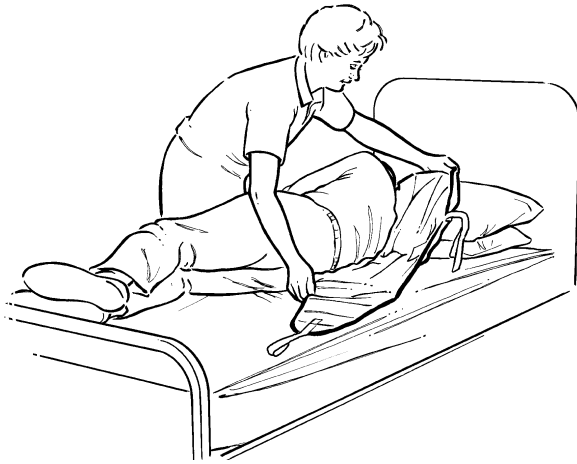


Figure 39

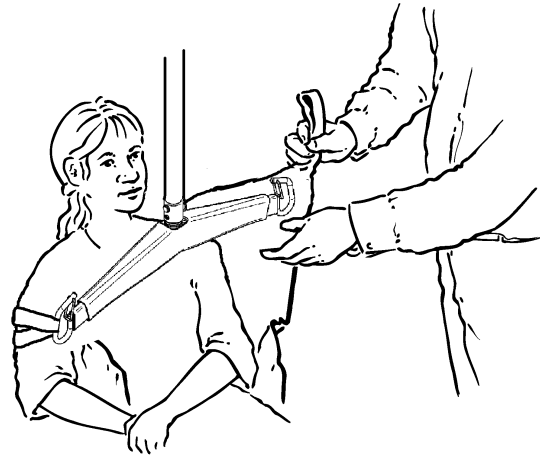


Figure 40

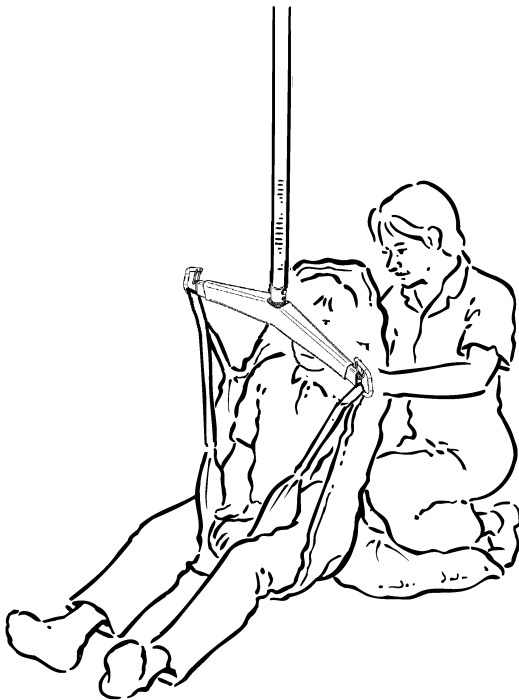


Figure 41

# Operating the DPS Spreader Bar

---



## **WARNING:**

Before using your lifter when fitted with the DPS spreader bar, familiarise yourself with the various parts, then read and thoroughly understand the following operating instructions.

The DPS spreader bar must be used in conjunction with the operating instructions.



## **WARNING:**

If using the DPS spreader bar in wet environment, do not immerse past the touch panel, it could affect the spreader bar functions.

## Operating the DPS

To operate the DPS spreader bar use the touch pads located on either side of the DPS frame. Press and hold the appropriate positioning switch. Select either the reclined position (*see figure 43*) or the sitting position (*see figure 44*). Release the switch once the desired patient position has been achieved.



## **WARNING:**

To ensure maximum patient comfort and safety, do not allow the patient to hold onto the spreader bar.

When ready to perform the patient positioning function (as described previously) operate the DPS control switch to achieve spreader bar movement in the required direction. A label can be found near the switch for easy direction recognition (*see also "Labels" section*).

Powered movement will continue until the limit of travel has been reached, or until pressure is released from the control switch.



## **WARNING:**

To stop any powered movement, release pressure from switch.

The spreader bar will remain firmly in position, once powered movement has ceased.



## **WARNING:**

Before and during operating the DPS spreader bar, ensure no obstruction is in the way.

## **DPS function cut out system**

If a solid obstruction is encountered accidentally during upward or downward movement then an electronic "cut out" system will operate automatically to protect the system. The system will reset quickly once powered movement has ceased, the obstruction or lifter should be moved to avoid this re-occurring.

If the patient positioning function "cut out" system operates again, without the obstruction being there, withdraw the lifter from use and contact ARJO service department.

## **Care Of Your DPS**

For general care refer to the "Care Section". Refer in particular to paragraphs relating to cleaning, plastic parts, labels, etc.



## **WARNING:**

Apart from cleaning no user maintenance is required, but some components may need to be serviced or replaced periodically. This should be carried out by an ARJO qualified service engineer. For more information contact ARJO or their approved distributor.

# DPS Spreader Bar

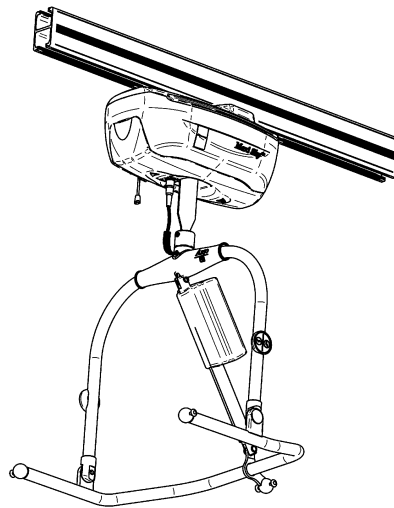


Figure 42

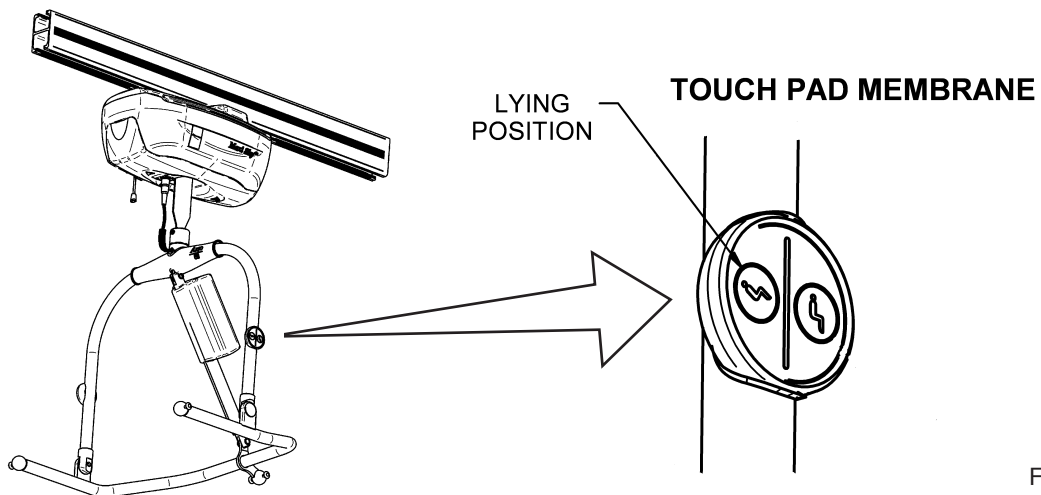


Figure 43

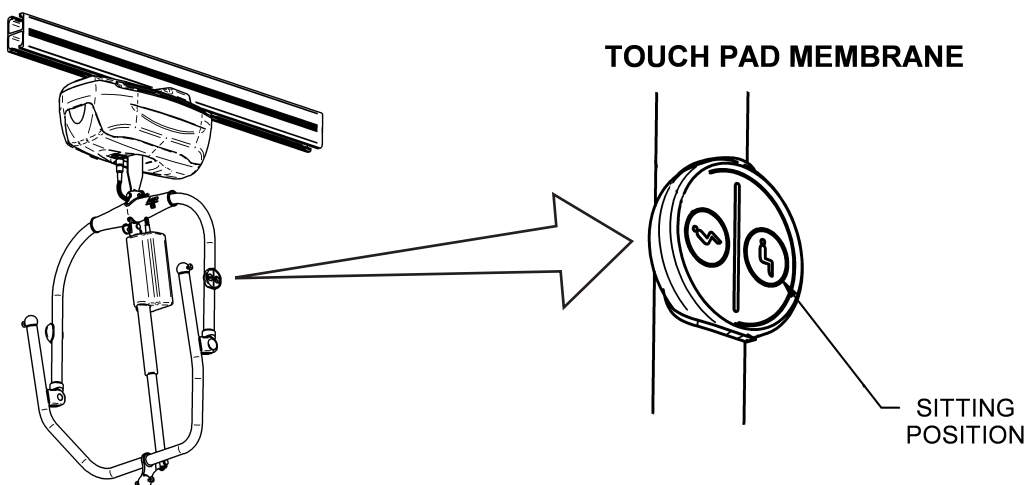


Figure 44

# Use of the Exchanger / Turntable

---

## Operating the exchanger

Turn on the *Maxi Sky*<sup>600</sup> lift by pulling the red cord. The green light on the lift will light up.

Move the lift to the activation station and release the button on the hand control. Listen for a beep sound, then wait while the exchanger changes its path. *See figure 45.*

Move the lift through the exchanger. *See figure 46.*

If the exchanger fails to operate automatically or in an emergency situation, manually engage the quick-release located underneath the exchanger. While holding it in the open position, slide the plate over to the new location being careful not to place your hand or fingers in the path of the sliding plate. *See figure 47.*

Release the quick-release button and move the lift through the exchanger.

## Operating the turntable

To enable the cassette to change route in a multi-directional track system, “turntables” will have to be operated.

Turn on the *Maxi Sky*<sup>600</sup> lift by pulling the red cord. The green light on the lift will light up.

Move the lift to the activation station and release the button on the hand control. Listen for a beep sound, then wait while the turntable changes its path. *See figure 48.*

Move the lift through the turntable. *See figure 49.*

If the turntable fails to operate automatically or in an emergency situation, manually engage the quick-release located underneath the turntable. While holding it in the open position, turn the plate over to the new location being careful not to place your hand or fingers in the path of the turning plate. *See figure 50.*

Release the quick-release button and move the lift through the turntable.

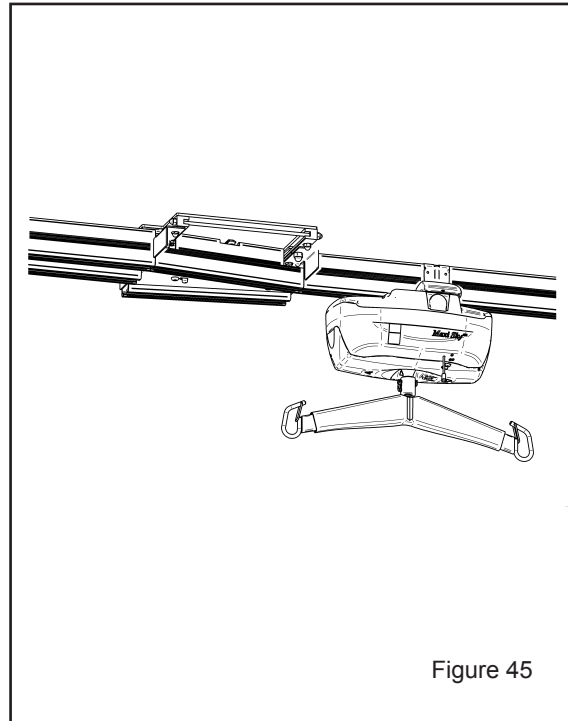


Figure 45

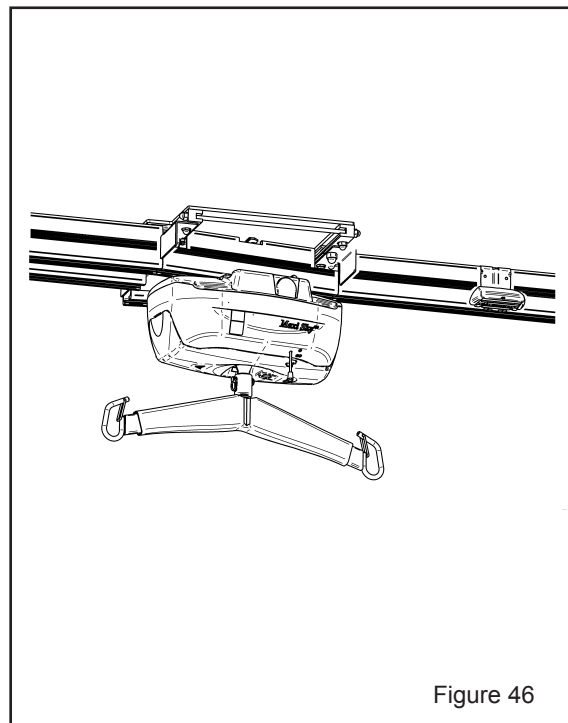


Figure 46



# Use of the Exchanger / Turntable

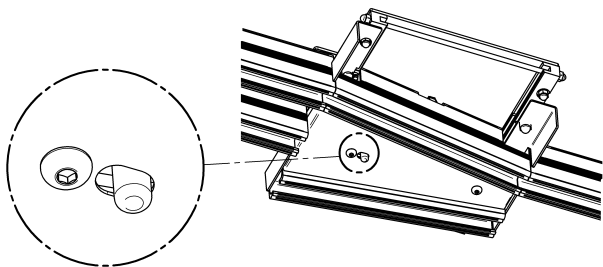


Figure 47

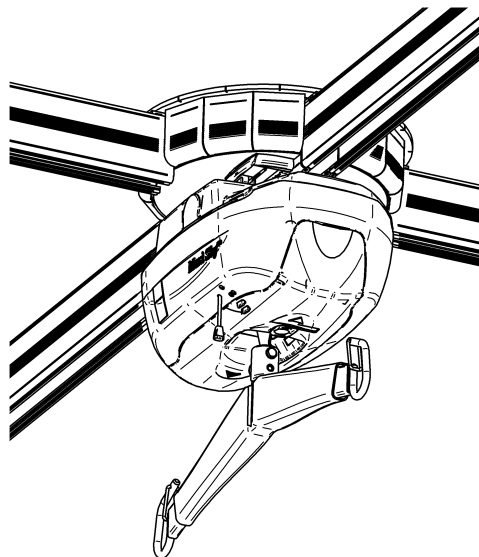


Figure 48

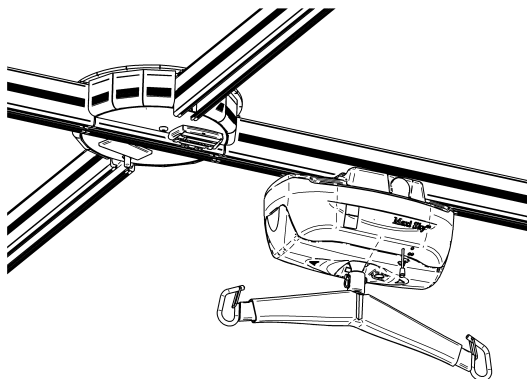


Figure 49

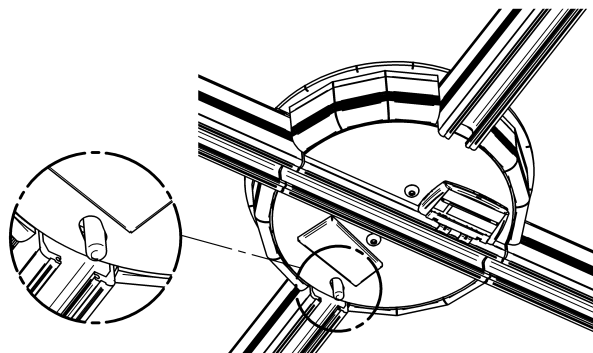


Figure 50

# Care and Maintenance

## Preventive maintenance schedule

The equipment is subjected to wear and tear, and the following maintenance instructions must be performed when specified to ensure that the equipment remains within its original manufacturing specification. Care and Maintenance shall be carried out in accordance with the Preventive Maintenance Schedule below.

Customer obligations shall be carried out by qualified personnel following the instructions in this manual.



### WARNING:

The points on this checklist are the minimum the manufacturer recommends. In some cases more frequent inspections should be carried out. Continuing to use this equipment without conducting regular inspections or continuing to use this equipment when a fault is found will seriously compromise the user and residents safety. Local regulations and standards may be higher than the manufacturers. A load test is recommended. Service and preventive maintenance can be arranged with the manufacturer. Preventive maintenance specified in this manual can prevent accidents and reduce repair costs.



### WARNING:

Safety related maintenance and authorized service must be carried out by qualified personnel, fully trained in servicing by ARJO, using correct tools and knowledge of procedures. Failure to meet these requirements could result in personal injuries and/or unsafe equipment.

TO BE INSPECTED BY USER						
FREQUENCY	Initially	Before every use	Every 2 months	Every 4 months	Every year	Every 2 years
TRANSFER (lifting and lowering)	0	Before every use	500	1000	2500	5000
LIFT CASSETTE						
DAILY CHECKLIST		X				
Inspect for evidence of external damages, missing parts or broken panel.	X	X			X	
Make sure that end stoppers and rail caps are in place and tightened.	X	X				
Inspect strap for wear, discoloration or loose wires.		X	X			
Recharge batteries.		X				
Inspect the spreader bar on the strap of the lift for damage or cracks. Make sure all fixations are properly fixed (split ring).		X			X	
Inspect wheels in rail for damage, rust or cracks. Replace if damaged.					X	

# Care and Maintenance

## TO BE INSPECTED BY USER

FREQUENCY	Initially	Before every use	Every 2 months	Every 4 months	Every year	Every 2 years
<b>TRANSFER (lifting and lowering)</b>	<b>0</b>	<b>Before every use</b>	<b>500</b>	<b>1000</b>	<b>2500</b>	<b>5000</b>
<b>DAILY CHECKLIST</b>		<b>X</b>				
Clean the rail and the clip on charging station contacts.				<b>X</b>		
Overall inspection by authorized personnel.					<b>X</b>	
Verify emergency stop cord.				<b>X</b>		
Verify emergency lowering device.				<b>X</b>		
<b>SPREADER BAR AND SLINGS</b>						
<b>DAILY CHECKLIST</b>		<b>X</b>				
Inspect all sling parts (attachments, material, stitches areas and strap) for sign of wear, discoloration, deterioration or loose wires.		<b>X</b>				
Cleaning sling as indicated on the tag.	<b>When necessary</b>					

## AUTHORIZED SERVICE CASSETTE SECTION

FREQUENCY	Initially	Before every use	Every 2 months	Every 4 months	Every year	Every 2 years
<b>TRANSFER (lifting and lowering)</b>	<b>0</b>	<b>Before every use</b>	<b>500</b>	<b>1000</b>	<b>2500</b>	<b>5000</b>
Replace strap.						<b>X</b>
Inspect frames interlock and hardware for disfunction and make sure there is no part missing.					<b>X</b>	
Inspect gears for wear.					<b>X</b>	
Inspect connecting joints for proper attachment (trolley and spreader bar).					<b>X</b>	
Verify that the emergency brake on the drum is turning freely.					<b>X</b>	
Verify emergency devices for good functioning.					<b>X</b>	

# Care and Maintenance

AUTHORIZED SERVICE CASSETTE SECTION						
FREQUENCY	Initially	Before every use	Every 2 months	Every 4 months	Every year	Every 2 years
<b>TRANSFER (lifting and lowering)</b>	<b>0</b>	<b>Before every use</b>	<b>500</b>	<b>1000</b>	<b>2500</b>	<b>5000</b>
Load test with the SWL (maximum working capacity) recommended.					X	
Track end stoppers inspection.					X	

AUTHORIZED SERVICE RAIL SECTION						
FREQUENCY	Initially	Before every use	Every 2 months	Every 4 months	Every year	Every 2 years
<b>TRANSFER (lifting and lowering)</b>	<b>0</b>	<b>Before every use</b>	<b>500</b>	<b>1000</b>	<b>2500</b>	<b>5000</b>
Torque end stoppers between 5 to 15 lbs (7 to 20 Nm).	X				X	
Make sure that the bracket locking device is not visible.	X				X	
Make sure rail joint are closed and that the spring pin is centered.	X				X	
Make sure the rail is straight when it is not loaded.	X				X	
Make sure that SWL (safe working load) label of the rail is equal or larger than the SWL of the cassette.	X				X	
Check that the accessories (turntable and exchanger) are complete and correctly maintained.	X				X	
Make sure that the fixations (ceiling brackets, wall post, wall brackets) are not displaced.	X				X	

# Care and Maintenance

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## NOTE!

If the product does not work as intended, immediately contact your local ARJO representative for support.

## Daily checklist

The following procedures must be followed before each use:

- Charge the batteries. Park the lift on the charger whenever the lift is not in use.
- Inspect the lift for any damage. If the lift casing does not look properly aligned, or there are any cracks or other damage on the lift, or any parts are missing – do not use it. Contact your local ARJO representative to have the lift serviced.
- Inspect the strap for any visible signs of wear, frays, loose threads or other damage. If there is any evidence of damage – do not use it. Contact your local ARJO representative to have the lift serviced.
- Inspect the sling for tears, frayed straps or loose stitching. If the sling has any of the above damage – do not use it. Contact your local ARJO representative to have the sling replaced or repaired.
- Inspect the spreader bar for any signs of cracking or damage.
- Ensure the split ring and cotter pins that attach the spreader bar to the strap are secured.
- **Before each use, make sure all end stoppers are in place and tightened.**

## Inspection and cleaning

Clean the *Maxi Sky<sup>600</sup>* with a soft dry cloth, or a soft cloth slightly moistened with a mild detergent solution. Do not use phenol, chlorine or any other type of solvent that may damage the finish.

To ensure a better rolling surface for the trolley wheels, clean the inside of the track every 4 months. To do so, insert a damp cloth in the opening and slide it from one end of the track to the other.



### **WARNING:**

**Always reinstall the rail end stoppers (if removed) after servicing.**

# Care and Maintenance

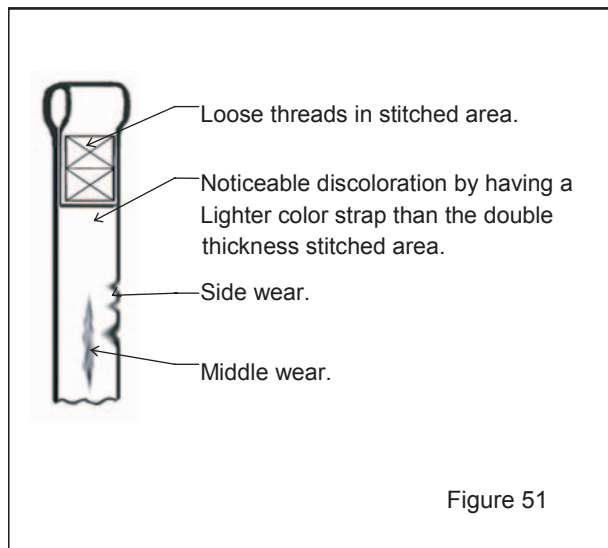
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## Strap inspection

If the strap is damaged or shows signs of wear or discoloration, the acceptable load on the strap before rupture can drop rapidly and present a danger for the resident or caregiver.

ARJO recommends thoroughly inspection of the straps every 2 months as follows:

- 1 Completely unwind the strap.
- 2 Look for any signs of wear or discoloration. *See figure 51.*



## NOTE!

The manufacturer recommends changing the strap at least every two years (see Maintenance section). By continuing to use the lift without changing the strap, the safety of the caregiver or resident is greatly compromised.

## Handling and storage

Avoid violent impact during transportation.

The lift should not remain stored for long periods of time without recharging the batteries.

## NOTE!

ARJO recommends charging the batteries at least every two weeks even if the lift is not used. This will prevent premature aging of batteries.

If you store, or ship, the *Maxi Sky<sup>600</sup>*, turn the power off (green light off).



## WARNING:

If there is any sign of wear as indicated here or other visual defects, the strap should be changed immediately. By continuing to use the lift without changing the strap, the safety of the caregiver or resident is greatly compromised.

# Care and Maintenance

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## Battery replacement

ARJO uses sealed lead-acid batteries. Contrary to nickel-cadmium, ARJO batteries do not have any memory effect. Therefore, batteries should not be completely discharged before recharging.

Replace the battery when there is a noticeable reduction in the number of transfers that can be performed between charges. If you notice the *Maxi Sky<sup>600</sup>* lift “beeping” and a red light flashing, see the instructions in “Troubleshooting” to ensure it is a problem with the battery.

To replace a battery, contact your local ARJO representative.

### CAUTION

**Do not attempt to use a battery not authorized by ARJO.**

**ARJO batteries are specially designed for ARJO charging systems. Attempting to use an unauthorized battery may seriously damage the lift and/or the charger.**

## Verification of charger power source

If the light does not illuminate when there are batteries in, do the following steps:

- 1 Make sure that the power cord is correctly plugged into the charger in the wall and clip on charging station indicator green light is on.
- 2 Make sure that there is contact between the contact plates of the lift and the circuit board of the charging station.
- 3 Check the power of the outlet.
- 4 If the yellow or green light of the charging station do not light up, contact your local ARJO representative for assistance.

## Sling inspection and care

For maximum resident safety and hygiene, read the following instructions:

### Inspection



### WARNING:

**The slings should be checked before and after using it for each resident and if necessary washed according to instructions on the sling. This is especially important when using the same equipment for another resident, to minimise the risk of cross infection. Also refer to *sling instruction sheet MAX.01510.INT*.**

### NOTE!

**With regard to laundering, slings should not be classified as linen, but as an accessory to a resident transfer lifter and therefore classified as a medical device. Slings should be cleaned and disinfected only in strict accordance with the manufacturers instructions.**

Before washing the slings that have head support pockets always remove the plastic reinforcement inserts. Always refit the inserts before re-using the sling.

Mechanical pressure should be avoided during the washing and drying procedure e.g. rolling or pressing, as these can damage parts vital to the safe and comfortable operation of the sling.

The stretcher cross straps and suspension straps should be checked and if necessary washed. Washing and drying temperatures must not exceed 80°C (176°F). Wash using normal detergents, do not iron. also refer to *Sling Instruction sheet MAX.01510.INT*.

# Care and Maintenance

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It is essential that the sling attachment cords, the slings, their straps and attachment clips are carefully inspected before each and every use. If the slings, cords or straps are frayed, or the clips damaged, the sling or attachment cord should be withdrawn from use immediately and replaced (see Care and Maintenance section).

## Annual inspection

The *Maxi Sky<sup>600</sup>* and its accessories must be inspected at least annually by a certified technician.



### **WARNING:**

**The *Maxi Sky<sup>600</sup>* and accessories must be serviced every 12 months as a minimum requirement (see Care and Maintenance section). Do not attempt to do the inspection unless you are certified to do so.**

## Maintenance requirements

The *Maxi Sky<sup>600</sup>* is equipped with an electronic monitor. This red light will flash when maintenance inspection is necessary to ensure the durability of the unit and the security of the resident and user.

Once this red light begins to flash, please contact your local ARJO representative in order to perform the necessary maintenance inspection.



# Troubleshooting

---



## WARNING:

Do not attempt to open the *Maxi Sky<sup>600</sup>* ceiling lift cassette. Only a certified technician is authorized to open the *Maxi Sky<sup>600</sup>* ceiling lift cassette.

Alterations made to the *Maxi Sky<sup>600</sup>* ceiling lift cassette by someone other than a certified technician may cause serious injury.

Problems	To check
The red light “Service” is on and flashing.	<ul style="list-style-type: none"><li>Contact your local ARJO representative to do maintenance.</li></ul>
The red light is solid.	<ul style="list-style-type: none"><li>The ceiling lift cassette is under overheat protection. Wait between 10 to 30 minutes until the red light turns off and press on the “UP” button to the ceiling lift cassette again.</li></ul>
The unit starts and stops repetitively.	<ul style="list-style-type: none"><li>If the load is over a safe working load, the unit will not work due to an overload protection on the motor.</li></ul>
The ceiling lift cassette emits a “beep” during utilization. The unit may stop lifting but can still lower it.	<ul style="list-style-type: none"><li>Batteries are low. Return the ceiling lift cassette to the clip on charging station.</li></ul>
Charger indicator on the ceiling lift cassette (yellow) does not light up when the lift is on the charger.	<ul style="list-style-type: none"><li>Check that the clip on the charging station is plugged into a standard outlet, and that the outlet have power. Clip on charging station indicating green light confirms the functionality of the charger.</li></ul>
When returning to charge, the ceiling lift cassette passes the clip on the charging station, or takes the wrong direction.	<ul style="list-style-type: none"><li>Clean the contact blades of the charging station with mild detergent. Pass the ceiling lift cassette through the charging station manually once, then retry the return to charger.</li></ul>
Batteries are always dead after a few transfers (3 to 5).	<ul style="list-style-type: none"><li>Verify the function of the ceiling lift charger and the contact fingers on the clip on the charging station.</li><li>Replace batteries with new ones. The life of the current batteries are probably over. It is important to always change both batteries at the same time (Contact your local ARJO representative to have batteries replaced).</li></ul>

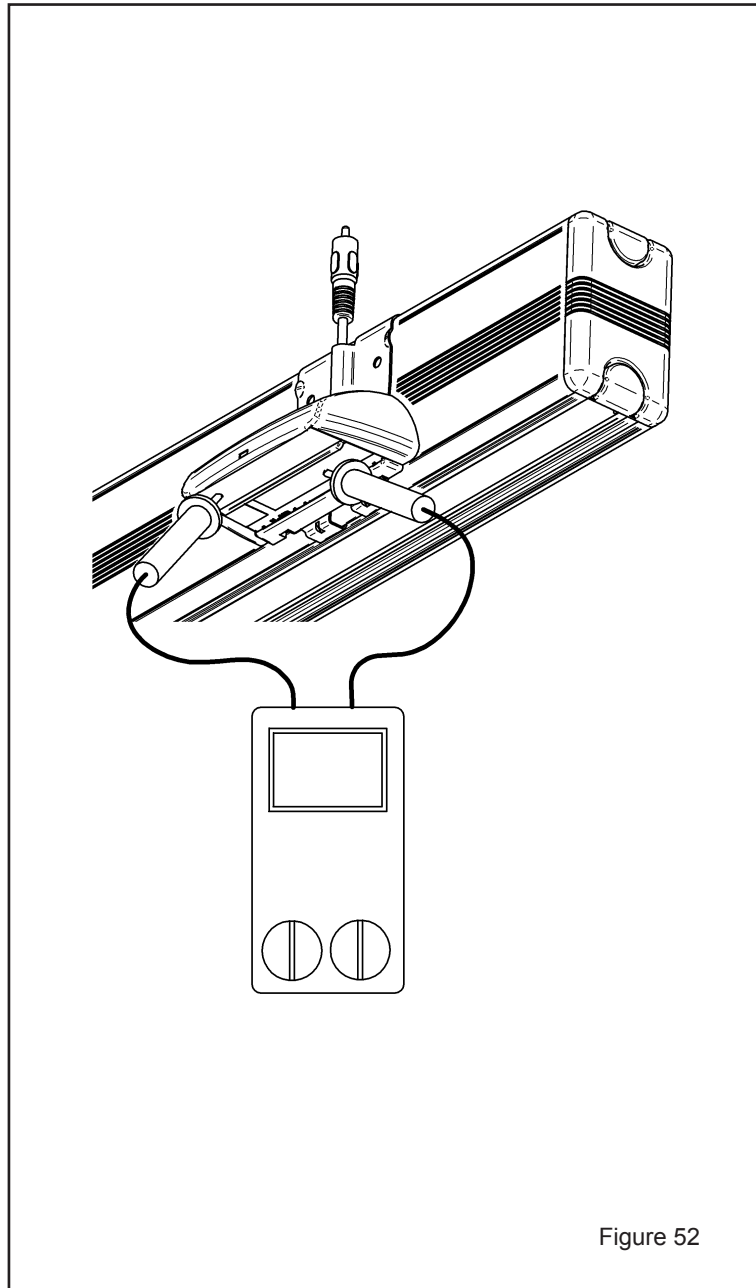
# Troubleshooting

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Problems	To check
The light on the charger shows a solid yellow light, yet the ceiling lift cassette will only do one or two transfers.	<ul style="list-style-type: none"> <li>Contact your local ARJO representative to have batteries replaced.</li> </ul>
The light on the charger shows a yellow light, yet the ceiling lift will only work when there is no one on the lift. When you try to transfer someone, the ceiling lift stops.	<ul style="list-style-type: none"> <li>Contact your local ARJO representative to have batteries replaced.</li> </ul>
The ceiling lift does not work when you press the buttons on the hand control.	<ul style="list-style-type: none"> <li>If the charger light is on, move the ceiling lift away from the charger in order to operate.</li> <li>If the emergency stop is activated, gently pull the red cord once until the green light is on.</li> <li>Check if the buttons on the ceiling lift cassette are working. If not, check the charge on the ceiling lift. If they are working, the problem may come from the hand control.</li> <li>Check if the hand control is plugged in properly into the ceiling lift cassette. The hand control may be slightly pulled out from its socket and yet appear as though it is plugged in. Pull out the plastic cover to check the connection.</li> <li>Slide the ceiling lift over the clip on charging station. Is the yellow light on?</li> <li>If, after testing all of the above, the ceiling lift will not operate, contact your local ARJO representative.</li> </ul>
The charging light on the ceiling lift cassette remains flashing yellow and does not turn yellow after an overnight charge.	<ul style="list-style-type: none"> <li>If available, try another integrated clip on a charging station from another ceiling lift or a spare one; plug it into the rail and charge for 3 hours. If the yellow light is still flashing, contact your local ARJO representative.</li> <li>Use a voltmeter, test two contact points on the charger (see figure 52). The voltmeter should read between 26-30 volts VDC.</li> <li>Contact your local ARJO representative.</li> </ul>
When you press the button to return the ceiling lift to its charger (4-way motor only), the ceiling lift goes past the charger.	<ul style="list-style-type: none"> <li>Charger either not has power or is not working properly. See “Troubleshooting” question above or the contacts are defective.</li> </ul>

# Troubleshooting

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# Technical Specifications

## Product information

<b>Maxi Sky<sup>600</sup> LIFT</b>	
Weight, complete	11.5 kg (28 lbs)
Lifting capacity	272 kg (600 lbs)
Strap length	2300 mm (90 in)
Lifting speed	6.0 cm/s (2.3 in/s) at 0 kg (0 lbs) 3.5 cm/s (1.6 in/s) at 200 kg (440 lbs) 2.7 cm/s (1.2 in/s) at 272 kg (600 lbs)
Maximum stroke (from ceiling)	2300 mm (90.6 in)
Horizontal displacement speeds	10, 15, 20 and 25 cm/s. Speed by default 20 cm/s (6 in/s)
Horizontal axis motor	24 VDC at 62 watts
Vertical axis motor	24 VDC at 110 watts
<b>BATTERY AND CHARGER UNIT</b>	
Batteries	Qty: 2, rechargeable, 12 VDC, 5 Ah
Battery capacity	Provides up to 120 transfers with a load of 74 kg (200 lbs), up to 70 transfers with a load of 200 kg (440 lbs) and up to 30 transfers with a load of 272 kg (600 lbs)
Battery Charger input	90-240 VAC, 50/60 Hz
Battery Charger output	26-29 VDC, 1 A max
Battery Charger safety protection	Class 2, double insulated
<b>HANDSET CONTROL</b>	
Degree of protection	IP 44
<b>TRANSPORT AND STORAGE</b>	
Ambient temperature range	-10° to +50° C (+14 to +122 F)
Relative humidity range	10% to 80% incl. condensation
Atmospheric pressure range	500 hPa to 1060 hPa
<b>RECYCLING</b>	
Battery	Sealed lead-acid, rechargeable, recyclable
Package	Cardboard, recyclable
The Lift	Separated and recycled, according to the European Directive 2002/96/EG (WEEE).

# Technical Specifications

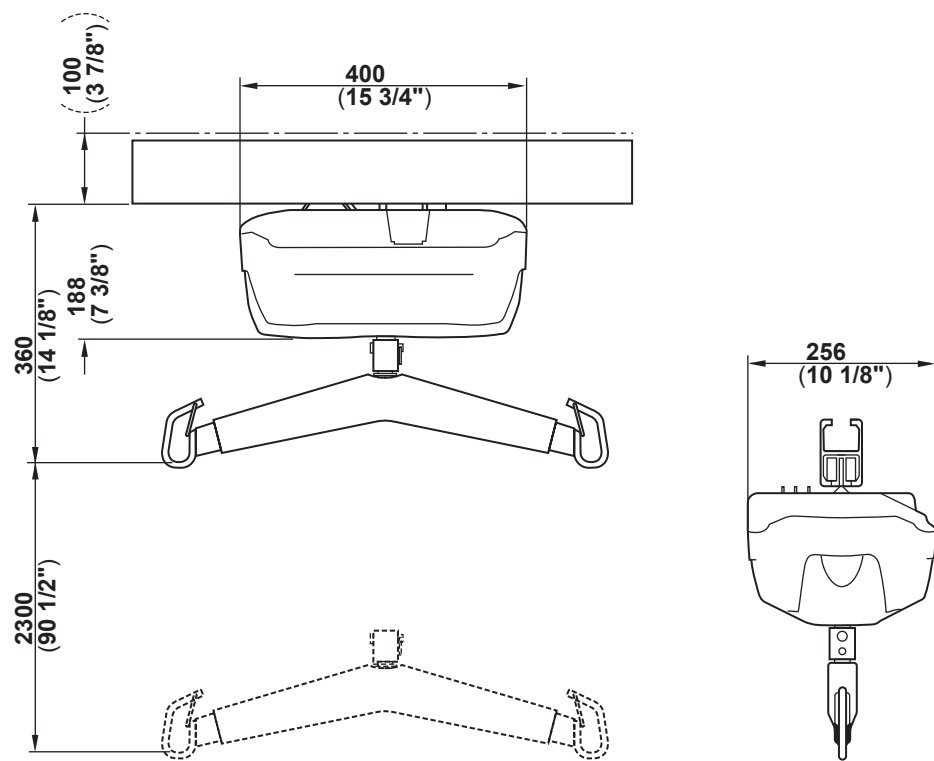
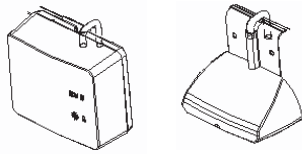


Figure 53

# Accessories

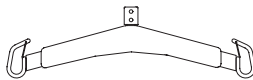
## CHARGER AND CLIP ON CHARGING STATION

Product # 700.15500



## 2 HOOKS SPREADER BAR

Product # 700.05495.33



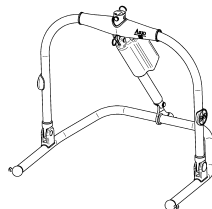
## CHARGER POWER CORD

Product #  
402.00001 - USA (UL)  
402.00002 - Japan  
402.00003 - CE (Europe)  
402.00004 - Australia  
402.00005 - UK



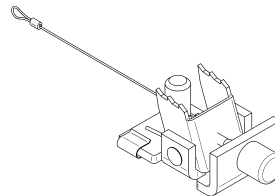
## POWERED DPS SPREADER BAR

Product # 700.19000



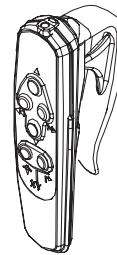
## RAIL STOPPER

Product # 700.11005



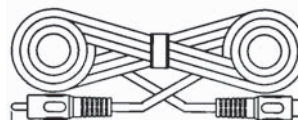
## HAND CONTROL FOR *Maxi Sky<sup>600</sup>*

6-buttons -  
Product # 700.13650.33  
2-buttons -  
Product # 700.13600.33



## 2 METER CHARGER EXTENSION

Product # 402.15505



## FIDO CONTACT STATION

Product # 700.15400.33

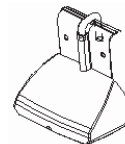


Figure 54



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